AMERICAN BEE JOURNAL

Vol. LXVII—No. 7 Hamilton, Illinois, July, 1927 Monthly, $1.50 a Year

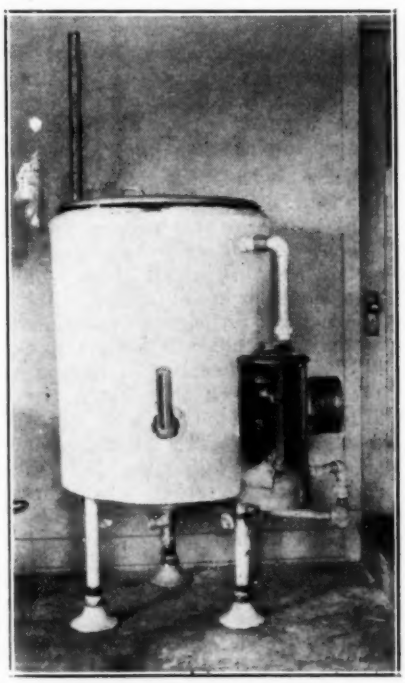
Efficient Bottling Equipment for Honey Producers

By E. A. Meineke

FOR many years the handling and heating of my honey crop in five-gallon cans has been unsatisfactory from the standpoint of labor and expense. No manufacturer could be located that made suitable equipment for my needs, so after a thorough canvass of the makers of large candy kettles, milk pasteurizers, and bottling machinery of every description, I purchased and assembled the outfit here described.

A glass enamel lined tank for pasteurizing milk is the main part of the equipment. The cut shows this as the factory supplies it, fitted for use with steam. The specifications are as follows:

1. Inner tank and jacket made of 3-16-inch open-hearth steel. Tank lined with acid-resisting glass enamel.



One view of heater assembly complete

Pressure tank

2. Insulated with 1-inch cork board covered with 20-gauge copper steel.

3. Removable 1½-inch flush valve set in sloping bottom. Valve shuts flush with bottom of tank so honey will not settle in valve, where it would not be heated.

4. Standard agitating nozzle for entrance of steam.

5. Angle stem thermometer mounted on front of tank to give temperature of inside of tank.

6. Impeller agitator with tight and floating type pulley drive or direct motor drive.

7. Safety valve.

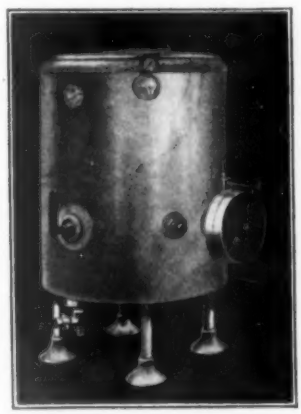
8. Steam gauge.

9. Pipe legs with adjustable bases to take care of floor slope.

10. One-piece spun copper cover or two-piece insulated cover.

11. Capacity sixty to sixty-five gallons.

This tank is fully equipped to hook up with a steam generator and is similar to several in use by large honey bottlers. Those who bottle honey in large quantities have to purchase their honey in five-gallon cans and liquefy it in a separate heater before putting it in these tanks for blending. The honey producer can run his honey in directly from his settling tanks if it is perfectly clear. This saves all the work of filling, storing, and heating five-gallon cans, as well as their cost. It also reduces the cost of heating because honey is put into the tank in liquid form, and, best of all, because the honey does not have to be heated so long as in the ordinary methods,



Another view of heater

more of the delicate flavor is retained. The agitator keeps the honey moving so it is heated evenly. A sanitary fitting obtained from a milk bottlers' supply house screws on the flush valve and furnishes a surface on which to clamp a flexible hose with a goose-neck bottle filler attached to it. With this method of bottling it is unnecessary to lift a pound of honey from the time it enters the extractor until it is in the retail packages ready for sale. The glass-lined tank is mounted high to provide a good flow of honey, so that jars at ordinary table height may be easily filled.

Not having steam or a suitable place to install a steam boiler, I found it necessary to use some other source of heat, and worked out the following system, which I believe is cheaper to install and operate, cleaner, and takes less room. All the steam fittings are removed from the tank and the agitator nozzle hole closed. A hot water heater is mounted on the side of the tank with the top of the heater coil connected to the steam gauge hole and the lower end to the opening in the bottom of the tank. The jacket of the tank and the pipes and coil are filled with water through the safety valve opening. About two feet of pipe with an open end is fitted to the safety valve opening so that water will not be forced out when it is heated. This pipe **must be left open** at the top so that the heat will not develop pressure and break part of the equipment.

The heater I have uses gasoline for fuel. The gasoline is stored in a ten-gallon tank under about twenty-pounds of pressure, applied with a foot pump. It is the kind used for gasoline stoves and can be located at any convenient point and the gas delivered to as many stoves and heaters as desired by small tubes. One filling will furnish heat for a couple of days for a steam uncapping knife, capping melter, and bottling tank. The heater will raise the temperature of the honey about 25 degrees Fahrenheit an hour, depending on the pressure used in the gas tank, and the insulation holds the heat during the settling period, so honey may be bottled warm.

After one year's use, I am very much pleased with the heater and tank. When it is not possible to tell exactly how many jars of each size will be needed, it is best to store a small amount of honey in five-gallon cans to take care of shortage that may develop in any particular size of container. This outfit is particularly well adapted to the producer with a large roadside trade that demands new honey as quickly as it can be put on the market, and visitors who "like to see the wheels go 'round" are very much impressed with the clean, sanitary way the honey is handled. Illinois.

The Connecticut Beekeepers' Survey

By L. B. Crandall

LAST spring, in order to get some suggestions for making the work with junior bee clubs more efficient, a questionnaire was sent to about two hundred of Connecticut's beekeepers. It was the purpose of this survey to find out why people go into beekeeping in the first place, and what they found in the business to hold them after they started. We also wished to know what bearing the age at which they started had on their success and what percentage of those who started after they had reached twenty-one made a success, and what contributed to that success.

There were eighty-five replies to this questionnaire, which we feel is another proof that the beekeepers of the state can be depended upon to back a worthy cause. Most of those reporting gave all the information asked for, a very few omitting one or two items.

These replies have been tabulated in two groups according to the ages at which those replying became interested in bees. The first group is made up of those who were over twenty-one years old when they became interested, and the second group of those under that age.

You will see from the tables that fifty replies were received from the older group and thirty-five from the younger group. The average age at which those of the older group became interested was 40, while the younger group averaged 15.5. The older men began work with an average of two colonies, while the younger men averaged more than twice as many—four and two-tenths. The average age at which they became owners of bees was 40 and 26. In other words, the older men started by owning bees, whereas the younger men had to wait until they were working for themselves before they could own bees, in the majority of cases. You will notice, however, that when the younger men did start, they began with more colonies per man than the others, and at the present time have more than twice as many colonies.

The next table gives the size of business of each group in percentages. About half of the older group own between six and ten colonies each, while a quarter more of them own five or less. Only a little over 12 per cent own more than thirty colonies each. In the younger group we find that nearly one-third of them own from eleven to nineteen colonies each, while nearly a quarter more own thirty colonies or more. In other words, of the older group 70 per cent own less than ten colonies, while of the younger group 55 per cent own more than ten colonies.

It is very interesting to note how the different ones got their first colonies. In the older group, by far the larger number bought their first colony, and about a quarter of them got their bees from stray swarms or bees from a tree, while only 12 per cent had a gift of a colony or swarm. In the younger group, more than half of them bought their first bees, and nearly 30 per cent had bees given to them, while only about 13 per cent caught stray swarms.

To me the reason why they started beekeeping is the most interesting of all. We find many reasons given in both groups, but the largest number of the older group began because of the desire to have honey to eat of their own raising. The next largest number is divided between a "love of nature" and a "hobby." The third largest group is made up of those who captured a stray swarm. In the younger group we find that one-quarter of them got their first interest because a relative or neighbor kept bees while they were young people at home. The next largest interest came from the pleasure and profit gained from working with bees. The third and largest interest came from finding a stray swarm, or of finding bees in a tree. We find that practically all in both groups have continued in the business because of the pleasure and profit in caring for bees.

Now, to briefly sum up the important points of this survey, young people become interested in bees because of learning about them while they are children at home, either from being intimately associated with them as a part of the live stock on the place or because of finding a stray swarm which they could have for the taking.

It is also interesting to know that quite a large percentage of the younger group secured their first interest in bees through reading about them or hearing someone talk about them in a public lecture, or because of curiosity to know what was inside of a hive. It would seem then from all the information so far available that the younger people became interested in beekeeping from being associated in some way with

those who are already interested and enthusiastic about the bees and willing to talk intelligently about what goes on in the hive.

Summary of Bee Questionnaires

Number of reports received 85
Number reporting who started work with bees after twenty-first birthday 50
Number reporting who started work with bees before twenty-first birthday 35

	Older Group	Younger Group
Average age began work with bees	40	15.4
Average number colonies worked with	2	4.2
Average age became owner	40	26
Average number colonies owned at start	2	3
Average number colonies owned now	16	36

Number of colonies owned:

	Older Group		Younger Group	
5 or less	12	24.96%	5	15.15%
6 to 10	22	45.76	6	18.18
11 to 19	5	10.40	10	30.30
20 to 28	3	6.24	4	12.12
30 or more	6	12.48	8	24.24
Total	33	99.99%	48	99.48%

How bees were obtained:

	Older Group	Younger Group
Purchased	63.8%	58.06%
Gifts	12.7	29.03
Stray swarms	23.4	12.90

Why They Started

	No.	%
1. Pleasure and profit.		
Older group	3	6.84
Younger group	5	15.62
2. Love of nature.		
Older group	6	13.68
Younger group	3	9.37
3. Relative or neighbor kept bees.		
Older group	1	2.38
Younger group	8	25
4. Read about bees.		
Older group	4	9.52
Younger group	3	9.37
5. Pollenization of fruits and vegetables.		
Older group	2	4.76
Younger group	2	6.25
6. Curiosity.		
Older group	2	4.76
Younger group	3	9.37
7. Profit.		
Older group	2	4.76
Younger group	2	6.25
8. Talk on bees.		
Older group	2	4.76
Younger group	1	3.12
9. Bargain.		
Younger group	1	3.12
10. Desire for honey.		
Older group	8	19.04
Younger group	1	3.12
11. Rheumatism.		
Younger group	1	3.12
12. Stray swarm.		
Older group	5	12.90
Younger group	4	12.50
13. Hobby.		
Older group	6	13.68
14. Gift.		
Older group	1	2.38

Total number in older group, 42; in younger group, 32.

They all continue for pleasure and profit.

Simple Honey Heater

•Whoever devised this heater should get the credit. But the fact is, the name of the sender has been lost sight of completely.

Top view shows the heater assembled; honey tank with water-jacketed base. Lower view, tank removed from bottom to show heater within, a double-burner oil stove. The whole outfit can be made up locally.

Creosote For Hives

By R. B. Manley

A correspondent in one of your recent issues asked for information about creosote for hives. There is no need for him to boil his boards in creosote. If he will just dip each board, it will be sufficient.

The principal thing, however, in order to get the best results, is to have the lumber **perfectly dry,** so that it will quickly absorb the creosote.

If the hives are dipped in this way, so that both the inside and the outside are alike dressed, it is quite essential that they shall be exposed to the air for some time; several weeks is preferable. Should this not be done, there will be some trouble with robbing, unless honey is being gathered rapidly. Even when the hives have been thoroughly exposed to reduce the smell as much as possible, the beekeeper should be careful. Entrances of stocks should not be large and all transferring from the undressed hives to the creosoted hives should be done towards evening.

I have no hesitation in saying that it is better to creosote only the outsides of the hives when they are needed for immediate use. If this is done and the floor surface where the bees alight is left undressed, little or no difficulty will be experienced.

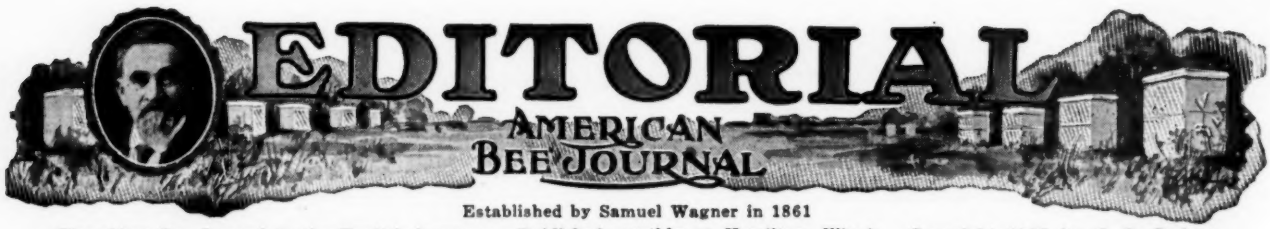
There is no other disadvantage in the use of creosote except perhaps that of the dark color.

If the lumber is thoroughly dry, the dressing will soak well into the wood and will act as a good preservative. There is very little swelling of the wood when creosote is used, as is so often the case where no dressing is applied. In many ways, it is better than paint and its use, of course, does away with an immense amount of labor and expense.

England.

Interesting Bee Provisions

The following is given by several of the French bee magazines: A beekeeper had placed into several of his colonies some mothballs of naphthaline, to drive away the beemoths. Some months later, he found several of those mothballs entirely covered with wax and propolis. The naphthaline had evaporated slightly inside of the wax covering, so that the mothballs rattled loose inside of their wax shells. Evidently the bees, not liking the odor of the mothballs and unable to carry them out, had found no better way than to cover them with beeswax and propolis.



Established by Samuel Wagner in 1861

The oldest Bee Journal in the English language. Published monthly at Hamilton, Illinois. Copyright 1927 by C. P. Dadant.

Entered as second-class matter at the Postoffice at Hamilton, Illinois.
C. P. Dadant, Editor; Frank C. Pellett, Associate Editor.
Maurice G. Dadant, Business Manager.

SUBSCRIPTION RATES:

In the United States, Canada and Mexico, $1.50 per year; three years $3.00. Other foreign countries, postage 25 cents extra per year. All subscriptions are stopped at expiration. Date of expiration is printed on wrapper label.

The Hoffman Frame

One of our good friends who is acquainted with the Dadant System and the regular Dadant or Quinby hanging frame, wants to know how I like the Hoffman close-fitting frame with which the Modified Dadant hives are supplied. I do not like them, never did.

Our people have given in to the argument that a beginner does not know how many frames to put in a hive or how to space them unless they are Hoffman frames and automatically self-spacing. But if you fill a hive full of these frames and the bees fill them and propolize them, you soon find great difficulty in removing the first one. As they cannot be pulled apart, it is better to have one division board in the hive. This may be removed without difficulty and the handling of the frames then becomes much more easy. Ten frames, and a division board which we always place on the windy side of the hive, constitute a much better hive than eleven frames without division board. Then, if you wish to reduce the space, with a weak swarm, you may move up the division board so as to keep six to ten frames within such space as the bees may well cover. This is good in early spring or with small divisions.

Our division boards are not loose boards of the same length as the frames; they are made with an oilcloth folded and tacked around the ends so that they close the hive tightly on the ends. This makes a warmer fitting than a loose board. They are, however, never made any deeper than the frames, so that the bees may pass under them and not be crushed when the board is moved.

Some of the students wish to know what has become of the Quinby standing-frame hive which was recommended in "Quinby's New Beekeeping." I do not believe there are many who use them now. We tried them and discarded them and never could see any advantage in their use.

The Origin of Propolis

A discussion is now taking place in some European bee magazines upon the above named subject. A Mr. J. B. Weck, following the lead of Dr. Kustenmacher, of Germany, and others, asserted that propolis was not a resin gathered on trees, as stated by all the writers, but that it is a product of pollen, formed in what is commonly called "the stomach mouth," joining the true stomach to the honey sac. Quite a lengthy explanation was given to show that propolis was produced from the digestion of pollen in the body of the bees and was expelled in small drops from the mouth of the nurses.

These scientists assert that they have never seen any propolis carried on the legs of the bees and that it is always at the time of the largest production of pap that the largest amount of propolis is secured.

This error is due to the fact that those scientists spend too much time in their laboratory and not enough in the apiary. If they watched their bees a little more closely they would see that the greatest amount of propolis is gathered when the least amount of pollen is needed, during the warm late summer days, when the bees feel the need of defending their hive against their various enemies or parasites. It is then that they gather propolis and bring it to the hive in largest quantities. We also know very positively that localities where trees are found in large numbers, furnishing resin, are the localities where the largest amount of propolis is used by the bees. It is easy to secure and they occupy some of their leisure hours in gathering it and "sticking it" anywhere and everywhere about their home.

Winter Stores

A very appropriate editorial from the "Scottish Beekeeper" says:

"Discussion of the stores required to winter a stock is like asking how many cows' tails would reach the moon. So much depends on the stock and the practice of the beekeeper. The stock at Glassel had consumed only fifteen pounds by the first of March, but required forty-one pounds before the end of May. On the allowances of Mr. Avery and Mr. Tinsley, such a stock must either starve on lower its standard of living, unless the beekeeper comes to the rescue with the syrup can."

Not only does the amount needed depend upon the colony of bees and the practice of the beekeeper, but it also depends upon the weather during spring. Some seasons, the bees harvest a sufficiency to support the breeding, as early as the time of fruit bloom. Other seasons, like the spring just passed, there is no chance for the bees to harvest any nectar until the big crop is on and they may need to be fed until the very last days of spring. At one time we had to feed bees so late that, as the weather changed and the crop came on, they added honey to the combs given to them for help.

More Ventilation

We notice that some beekeepers advise staggering the supers for ventilation by pushing them forward so that there will be an opening of an inch or less at the back of the hive between the body and the supers. The advice is good except that it is not desirable to have this opening at the rear, for some bees will get in the habit of going back and forth through this opening. When it is again closed, which will have to be shortly after the crop ceases, those bees will have great difficulty in finding the front entrance, while if the staggering is done towards the back, so as to leave the opening in front, the bees, when we close this, will readily find the main entrance. As soon as the crop stops, or as soon as the weather cools, it is desirable to close this upper entrance on account of the danger of robbers. The bees usually do not store any honey near it, evidently for that reason.

Beekeeping In Kabylia

A magazine published in French Kabylia, Algeria, sends out an occasional leaflet on "Interesting Affairs." Its last number, published in May, gives a description of beekeeping, both ancient and modern. It tells how they made hives with the bark of the cork oak, by peeling the bark off a good sized tree and sewing it together again, thus making round boxes, or what we would call "gums," from 12 to 18 inches in diameter and a length of 4½ feet. Those cork hives were not set on end, but laid down with a disk at each end, one of the disks perforated for the flight of the bees. The magazine also gives a list of the honey-producing plants and trees of Kabylia.

Overdoing the Work

As some beginners appear to overdo the work, as advised by us, it may be as well to quote the complaints of a beginner and comment upon them:

"I tried following your advice as given in your article on page 304 of the June number, to exchange supers full of bees from strong colonies for empty ones from weak ones, and I have, in every case, had a loss of bees killed and thrown out in front. I have probably also lost some queens in this way. I wish I had never heard of you and your Journal. I believe the beekeepers' fraternity would be better off if all the bee books and journals were thrown into the fire. This has caused my bees to sting everyone in sight and we cannot even sit on the piazza without getting stung." N. Y.

This party tried to give supers full of bees, but evidently not very full of honey, to weak colonies, at the beginning of the crop, when it was hardly on, and when the weather was very changeable, as it has been all through the country during the past month. Evidently the bees were not making much honey, since they became so cross that they stung everybody about the house.

It is probably best to explain our method of doing in exchanging supers. We do this only during the height of the honey crop, at a time when all colonies have a plenty in the body and some colonies are likely to be short of room in the supers, while others, much less strong, are unlikely to finish filling the supers. In this way we get a uniform crop and all the supers well filled. But we would not think of giving a weak colony a super full of bees with only part of the super built out, for the strong colony needs no room then and the weak one may not be able to take care of what is given to it. Work must not be overdone and some discretion must be used in exchanging supers full or partly full. We have never lost any bees by this method. Uniting is good when there is a good honeyflow or when all the bees of both hives are full of honey. But some people rarely succeed with this work.

The same party tells us, in the same letter, that he has never bought a bee smoker that would not go out in the midst of the work. With us, it is just the reverse. We have never used a smoker, of any kind whatever, that would go out till all the fuel in it was burnt up. But three things are needed: Have it well lighted, stand it up so that it may draw like a flue when not in your hand, and keep it well refilled. I never had to relight the smoker after lunch, for I filled it up before lunch and left it standing up, so that there was always a good fire in it when ready to take up the work again.

Spray Poisoning Poisons Pollen

One of our subscribers reports that, when the bees were poisoned by spraying, some of the brood died also. He thinks that the pollen in the blossoms was poisoned by the spray and that the feeding of this poisoned pollen to the brood caused the dying of the brood. This looks very probable. It is more than nonsensical, it is idiotic, for a fruit grower to spray his fruit trees when the blossoms are open, since he then damages the pollen. It is absolutely improbable that pollen that has been wet with poisoned spray may serve to fertilize the bloom. So the sprayer works doubly against his own interests when he sprays during bloom, for he kills the insects that do the fertilizing and damages the fertilizing dust itself. He is actually working against his own aims. But the fools are not all dead yet. It is to be deplored that they injure others as well as themselves.

We must keep on preaching and urging people to spray trees before the bloom opens and after it drops, and NEVER during bloom.

Nectar Not All From Flowers

A very interesting article, by J. K. Wilson, professor of soil bacteriology at Cornell University, is published in the June issue of Gleanings. It shows that fluids, more or less sweet, are often given off by plants, through stomata on the edges of the leaves or of the stem, "when internal pressure is high." This confirms the assertions made, years ago, by Professor Gaston Bonnier, of the Paris Superior Ecole Normale, and published in "Les Nectaires," in 1879, with 130 cuts. Mr. Wilson's article is very practical and is accompanied with nine engravings, showing the excretions of water, more or less sweet, on strawberry leaves, cassia, timothy seedlings, etc., It is very interesting, for it shows that the so-called "honeydew" is not formed altogether by insects. If anything looks like dew, this excretion certainly does.

The Flood Sufferers

In another part of this magazine our readers will find appeal of Mr. W. E. Anderson for funds and supplies for the help of the stricken beekeepers in the flood area.

In the past few weeks a number of beekeepers among our subscribers have written asking if there were not some agency through which subscriptions might be received which would be assured of reaching the beekeepers in the flood area who were deserving.

By their concerted action and by placing their cause officially in the hands of so able a man as W. E. Anderson, State Entomologist and Inspector for Louisiana, the beekeepers of that state have placed themselves in a position to have their appeals given recognition.

Our readers will notice that the call of Mr. Anderson is not only for funds, but for supplies to rebuild the apiaries.

All contributions should, of course, be made direct to Mr. W. E. Anderson, State Entomologist, at Baton Rouge, La.

Should other states follow the lead of Louisiana, we will be glad to so advise our readers.

The Bee Chautauqua at Hamilton

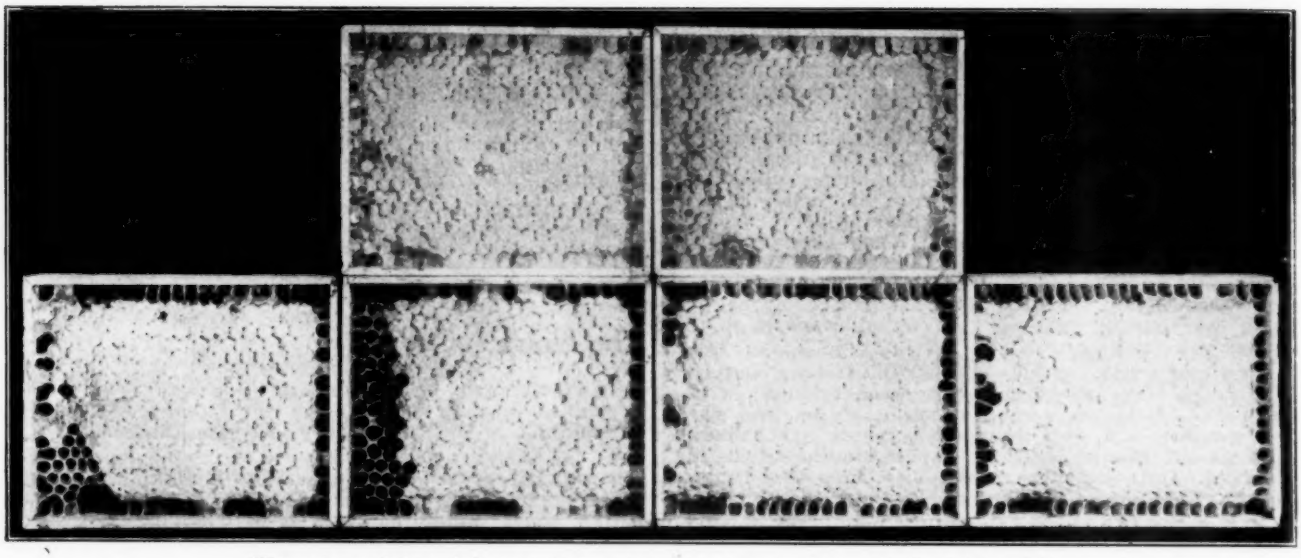
The beekeepers of Wisconsin, Illinois, Minnesota, Iowa and Missouri have organized a Chautauqua, to be held at Hamilton August 9, 10 and 11. This was announced already in our May number, page 263. The beekeepers of the entire United States are invited and Dr. Lloyd R. Watson is to demonstrate and explain his artificial insemination of queens.

Naturally, we expect a large attendance. All beekeepers who intend to come and do not wish to "camp out" are requested to write to Dadant & Sons and announce their intention, in order that some reservations may be made for their accommodation. The town is not large; there is only one hotel, and we will try to get as many of the citizens' families as possible to make night accommodations for one or more persons at a nominal charge. When no more room can be had at Hamilton, hotels in Keokuk can accommodate a large number, and Keokuk is just across the Mississippi from Hamilton. We want everybody to have a good time. So please write us and let us know if you wish to have sleeping quarters.

Poisoning the Bees

One of our lady beekeepers, Mrs. C. T. Hood, calls our attention to an article in the Chicago Tribune of May 21, by its "Farm and Garden" editor. This advises the use of poison for killing cutworms, as follows: "Mix bran 20 pounds, Paris green 1 pound. Then dissolve 2 quarts of syrup in 3½ gallons of water and mix this with the bran. Place the mixture in small piles eight or ten feet apart all over the garden or field."

The writer of the above forgets that, in times of scarcity of nectar, some bees will be attracted to the sweet mixture and will be poisoned by it. Bees, as we all know, are beneficial to the orchards and gardens by their action in fertilizing flowers, so some other way should be devised to kill cutworms.



Wisconsin graded comb honey. Fancy above; No. 1 lower right, and No. 2 lower left

Honey Grading

By C. D. Adams, Supervisor of Honey Grading, Wisconsin Department of Markets

CONSIDERABLE confusion seems to exist in the minds of beekeepers as to just what honey grading is. When the bee culture men of Washington got out their very excellent standard honey grader with definitely set color standards for honey, a well known leader in our industry made the statement that now that we had grades for extracted, we must formulate grades for comb honey, while as a matter of fact the color standards for honey are used only to help in describing the grade of honey, either comb or extracted, and are not, in themselves, grades.

As chairman for several years of the Committee of Standards of the American Honey Producers' League, I had an opportunity to study all of the now existing honey grading rules and to assist in drawing up grading rules for that body. When the U. S. Bee Laboratory took up the work of preparing U. S. honey grading rules, Mr. E. L. Sechrist, associate apiculturist, was delegated to collect information on the subject.

He went about it in a business-like way by going direct to the principal honey markets and honey producing sections of the country, especially where honey grading rules are used in any way. Among the rules studied were the ones proposed by the American Honey Producers' League, the rules of the A. I. Root Company, of the Colorado Honey Producers' Association, and those in use in Wisconsin. None of these were found fundamentally to conflict, but each was found to be weak in some respects, notably in the requirements for attachment of the combs to the sections and the method of determining the degree of cleanliness of extracted honey.

After this investigation, Mr. Sechrist undoubtedly knew more about the problem than any other man ever did before. The result led to the formulation of the U. S. honey grading rules, in which neither the color nor the flavor are primarily considered in grading.

While the United States grading rules are not yet published, they are in the hands of the printer. As the state of Wisconsin wished to establish its grading rules in uniformity with the federal rules in time for their use during the coming season, we secured from the federal government an advanced copy of the rules and have made a careful study of them.

On account of the Wisconsin law requiring hearings and a definite expiration of time after publication before becoming effective, it will not be practical to put the revised rules in effect the coming season.

Wisconsin being one of the leaders in state grading of honey, has used standard grades successfully for six years. Standard grades are no longer experimental in Wisconsin, but are an accomplished fact. We naturally desired, therefore, not only to have all possible information on the subject, but to have no conflict between our grading rules and those that are being put out by the federal government for the express purpose of harmonizing honey grading for the whole United States.

The federal rules, which, we are informed, will soon be ready for distribution, the exact time to be announced in the bee journals, were prepared by the United States Bee Culture Laboratory in cooperation with the Bureau of Agricultural Economics (formerly Bureau of Markets) of the United States Department of Agriculture, not only for use by the individual beekeeper in grading his honey, but as a standard which the various states should use in preparing state grading rules for honey.

The federal grading rules have been prepared from a broader viewpoint than would have been necessary for any one state, and it is urged that each of the states, when adopting grading rules for honey, should base its standards on the grades recommended in the federal rules.

It is now more important than ever before that all commercial honey be uniformly graded. With the federal grading rules as a basis, each state can and should adopt state rules that are in harmony with the rules of all other states, so that there may be an end to the confusion that arises from lack of uniformity in grading, and from a misunderstanding of what is meant by fancy or No. 1 honey.

From talking about grading to literally hundreds of beekeepers, I know that it is the general impression that only white honey can be graded No. 1. As a matter of fact, in both Wisconsin and federal grading, buckwheat or other dark honey may be fancy or No. 1, provided it comes up to certain requirements, when it may grade either fancy or No. 1 "dark," while some water white honey may not come up to

the requirements of either grade. I have yet to find anyone who did not agree, when the matter was fairly presented, that this is as it should be. While a good majority of honey eaters prefer white honey, a minority is just as insistent on having dark honey. It nearly always depends on the kind of honey we ate while we were children. If we were raised on dark honey, then dark honey will always taste best to us. The definition of "the best honey" could well be based on this fact.

This brings us to the matter of flavor in grading. When Wisconsin established grades without reference to flavor or source of honey, a great many protests came to this office. It became one of my duties to answer their letters either in person or by mail.

To do this, I sometimes talked of apples instead of honey to get the idea across. When you are asked what variety of apples you would put in grade No. 1 you may immediately put a few of your favorite varieties in that class and then your second choice in No. 2, and so on down the line. But if you were to buy a box of your favorite apples marked, for instance, U. S. No. 1 Delicious and find them uneven in size, wormy and scabby, but true to name, I am afraid you would be far from satisfied with the grading. We have in some of the northern states an apple named Hibernal, that for ordinary eating purposes is far below the much-abused Ben Davis. They are not even red, yet hundreds of barrels of U. S. No. 1 Hibernals are shipped to the pie factories and canneries every year.

We cannot agree on flavor of apples any more than we can on honey. As far back as I can remember, we had Winesap apples in our orchard, but I never would eat them if I could get almost any of the other varieties we had. Yet I do not condemn Winesaps for that reason. Nine out of ten of my friends say they are hard to beat. So we rightly have U. S. fancy and U. S. No. 1 regardless of variety, and we have fancy and No. 1 honey regardless of variety, and we have fancy and No. 1 honey regardless of source or flavor, excepting that it is specified in the federal rules that it "shall not have any objectionable flavor from floral source." In the "Definitions of Terms" that accompany these rules we are told that "nectar gathered from plants such as bitterweed often imparts a very disagreeable flavor to honey." I am told that anyone who has ever tasted bitterweed honey of the south will not disagree with this statement. But we do have honey from other floral sources that are very disagreeable to some and delicious to others. Such honey may cause some disagreement in the matter of grading, but if anyone thinks he can improve upon that wording I suggest he try it. If he can satisfy himself and one or two of his critical friends that he has really made an improvement, I am sure the authorities at Washington will be glad to hear from him.

In Wisconsin we expected some trouble about disagreeable flavor of honey, but in six years we have had just one complaint on this score, and that was easily adjusted, as the honey which was objected to proved to be a very fine grade of basswood, and so it was sold again at a premium, as it often is where appreciated.

Those who attempt to formulate grades on the basis of the source of honey can never get very far without becoming hopelessly tangled. A few years ago at a summer's beekeepers' meeting four well known men sat at the speaker's table during the banquet. A local beekeeper had thoughtfully provided some excellent honey for the occasion.

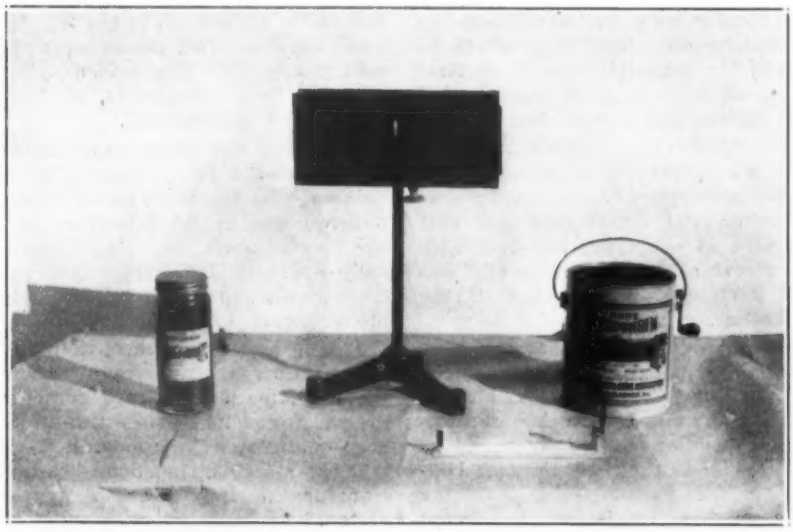
Two of the speakers have authority to attach Ph. D. to their names, and their names are frequently seen in our bee journals. Another is a noted teacher of beekeeping, while the fourth had recently written an editorial on basswood honey.

Some of the beekeepers disagreed over the flavor of the honey that they were eating and referred the question to the speaker's table. One thought it was pure clover; the next said it was almost pure basswood; the third said it was a blend of the two, while the fourth was not certain as to its source, but could not agree with any of the other three. The producer was uncertain himself, but was thankful that he did not have to grade it according to source of flavor.

Well, then, what is used as a basis for grading? There is not room in this article to go into a thorough study of grading, but we can mention a few of the fundamentals. In comb honey the most important thing is appearance. No matter what the quality of the honey is, it cannot be fancy or No. 1 if the wood of the section is unsightly, the surface of the comb badly travel-stained, or too many unfilled or uncapped cells. Such honey is not commercially salable. Then the comb must be well attached to the wood, so it will bear shipment and handling. The comb must not extend beyond the wood. Where it does it is almost sure to become bruised and start leaking when shipped or handled by anyone except a beekeeper.

The honey in the sections must be fairly uniform in color. After these and a few other minor factors have been determined we are able to say what grade it is. Then we may decide with color charts, to be put out by the federal government as a part of its grading rules, and perhaps with a honey color grader, just what the color is. When this is done we can then pick up our rubber stamp and mark each section and case U. S. Fancy Dark, U. S. No. 1 Light Amber, or U. S. No. 2 Water White, as the case may be.

With extracted honey, grading is much more simple. The honey must be well ripened (weighing not less than twelve pounds to the gallon), not contaminated by foreign flavor, so free of foreign particles that No. 1 honey may be passed through bolting cloth of twenty-three meshes per inch without leaving residue, or it will grade fancy if it will pass through eighty-six meshes per inch without leaving residue.



Standard honey grader devised by the Haubon Company in cooperation with the U. S. Bee Culture Office, Washington

If, then, the one doing the grading is in doubt about the color, it will be necessary to determine that by the use of either the government standard grader or one of the cheaper ones that will probably be put out by the supply houses. He then will be ready to stamp or label his honey "U. S. Fancy White" or "U. S. No. 1 Amber" honey, as the case may be.

The rules also provide for grading exhibition honey, export honey, shallow frame comb honey, and cut comb honey along the same lines as those for comb and extracted honey.

When the producer has graded his honey in accordance with these rules, there is no objection to him adding the source of flavor. In fact, for the protection of both the producer and buyer it should be done where possible. But to make it a part of the grade would make endless trouble for the producers of many states and would make it practically impossible to sell a large proportion of the honey of the entire country by grade. It would indeed give an undue advantage to the producers of some regions where practically all honey is from one or two very definite sources.

Artificial Pollen

By Victor Dumas

Translated from La Depeche de Toulouse

WE know that bees gather upon the stamens of blossoms quantities of pollen which they pack in pellets in the hairy baskets of their posterior legs.

This pollen is intended almost exclusively to make, with honey and water, the pap which the nurse bees serve to the larvæ as food. The absence of pollen means absence of brood rearing. It is therefore an important problem which confronts the beekeepers of certain regions lacking in pollen-producing blossoms, of early growth, supplying it at the end of winter, such as hazel, boxwood, alder, willows, etc. Some districts, rich in artificial meadows and able to produce large amounts of honey, may find themselves very lacking in these trees and, therefore, in danger for their honey crop.

This is why they have, at all times, thought of substitutes for pollen. It is an old practice, among our peasants, to give the bees ground soy beans, in February-March. They do not usually do it in the expectation of helping breeding, but rather as a food for the adult bees; it matters little, since they have noticed that this feeding did a great deal of good to the colony.

It was after the observations of Huber and Dzierzon that the purpose of pollen was determined and that the idea of supplying the bees with some sort of flour scientifically settled itself within the mind of the beekeeper.

Some modern investigators have denied that pollen could be replaced by substitutes. So when Dr. Phillips came to see me, I asked him the following question:

"Your colleague at Cornell University, Dr. Parker, said that the bees, when pollen is lacking, accept different flours fed to them, but that the larvæ die just after the period during which flour was supplied and used by the bees as larval food at the exclusion of any pollen. This statement does away with what has been written on the subject in the books on beekeeping. Can the conditions of these experiments be relied upon as sufficiently exact to be accepted as a definitive truth upon this subject?"

Dr. Phillips replied: "These experiments have been well established; the hives were placed in a greenhouse; they could procure nothing in pollen except what was given them. It has been noticed, besides, that even adult bees could not digest the flour. When it was given to them with honey, the honey was digested, but the flour was found unchanged in the stomach or the intestine, in dissecting them."

I simply took note of this reply, as I did of his replies on other subjects, for the time necessary for an exhaustive discussion was lacking. Had it been otherwise, I would have called the doctor's attention to the fact that adult bees consume pollen when necessary and that this pollen is also found in their excrements, as if only diluted and not digested.

To make the experiment conclusive, it would be necessary, in my opinion, that the analysis of flour or pollen found in the intestines or in the excrements be made chemically—perhaps Dr. Parker has done it—without depending upon the simple criterion of appearance.

It may be, for instance, that these flours, after their passage through the digestive organs, are found as bran is found in the intestine of the hog—undigested in appearance, but that the starch in the flour has been transformed into glucose and digested.

It is to be supposed that the larvæ and the bees need pollen to furnish nitrogenous matter. This is probable. They may also find some other substances existing in flour. In any case, the custom of supplying bees with flour when pollen is lacking, is too ancient and too common for me to believe that it amounts to nothing, that it has never brought a positive result.

The experiments of Dr. Parker rest upon the ascertaining of facts which appear numerous, if not precise. But in order to take a position on this, I would like to be enlightened upon the following questions:

A. Have the grains of flour been found within the intestines of the larvæ?

B. If so, were they chemically identical with those not absorbed by them?

C. Has the same investigation been made upon grains of pollen?

D. In the case of a more or less partial digestion of the one or the other food, could not the death of the larvæ be attributed to the total absence of some vitamines existing in pollen, but of which flour would be deprived?

In the case of this last hypothesis, one might be able to conciliate the adverse theories by admitting that flour is a complement able to protect against an insufficiency of supply of pollen, but not as an absolute substitution.

Handling and Marketing Honey

By John H. Rosser

WE run the honey into a tank which overflows into the next tank, and so on until all are full. Then it is allowed to stand till the next visit, when it is run into sixty-pound tins and stored. We have a shed for storing, at each yard. Tins are all taken there before the crop, so that during the season we first do bee work—that is, get the colonies in condition for the crop, and then we extract. After the crop is over, we requeen, if we have time; if not, we requeen as convenient.

We get a crop every second year, unless we get a drouth instead, and we always have good, young queens in every hive the autumn before the crop. We bottle our own honey and maintain a steady supply.

We also sell to farmers in sixty-pound tins, handling repeat orders for this trade through the year.

Before we started, we tried to interest other beekeepers in adopting a common label, but finally had to go alone. We have been successful enough to convince me that our method is O. K., that if it were adopted on a large scale by a group

of producers it would solve the marketing problems.

When I have time, I go out selling, taking a ton of honey. I sell to two-thirds of the farms I visit. We plan to follow up the buyers with leaflets telling of the value of honey as a food, as I find that merely selling is not enough.

People have to be taught to believe in honey as a food. We have not used these leaflets yet, as cash for buying them has not been available. The beekeepers in general have not decided to use them, so that we could purchase leaflets cheaply from supply houses as they were needed.

We value our country trade and, from experience, know that we beekeepers have an unused market right at hand. An instance: I kept bees on the Coomera River for sixteen years and during that time did not sell more than twice that number of tins. I decided to try the direct method of selling, and started in the Coomera Valley. I sold forty-seven tins to fifty farms.

Repeat orders we can't handle as cheaply as the grocers can, and we allow them one-third.

The city trade demands bottles, and we supply them. Advertising comes first, so that they will learn to value honey and so be ready to buy in larger quantities.

We have a bottling outfit we designed. The honey is melted into a vat containing nearly a ton. This is kept hot by a hot water pipe that runs from the melting tank through the vat and back to the melting tank.

The bottler is on a lower level and fills six bottles at a time. A home-made labeler is used. A wheel turns over a paste trough, the bottle is held on the wheel, which is hollowed out so that the paste touches the bottle at the sides only. The bottle is then pressed on a pile of labels held in a container. The container is supported on four springs and the labels are supported on a block curved to suit the bottle. The paste picks up a label, the cork end of bottle is then dipped in wax and label wiped.

This outfit is all right for a little concern like ours, but I am sure little concerns are not efficient, and I would recommend both here and in the United States that little concerns merge into bigger ones, or that groups of beekeepers form into bottling concerns rather than that individuals should start.

My experience has convinced me that any honey-bottling concern will succeed if it:

1. Produces good flavored honey only.

2. Sees that its customers can always obtain this quality and flavor.

3. Sees that they obtain it easily.

4. Sees that price does not vary.

5. Encourages purchase of economical packages.

6. Studies the food value of honey and tells customers about it.

The bigger the concern, the better it will succeed, because the cost of advertising will be lighter in proportion.

Australia.

C. A. Gorbatcheff

We give our readers the photograph of Professor C. A. Gorbatcheff, who is director of the Beekeeping and Silk-culture Station of Tiflis in Georgia. This is not the Georgia of the United States, but a district in the Caucasus Mountains of southern Russia. Professor Gorbatcheff is the man who sent to us the views of different apiaries in the Caucasus which have been published in the American Bee Journal at different times, some of which are still unpublished. Georgia has been renowned for centuries for its beautiful women. There are probably some there yet.

Cures For Stings

Why not do away with all those complicated so-called cures and use just plain spirits of camphor, something that everybody has, or should have, in the house, all ready for instant use for a thousand and one emergency cases?

Quickly as possible, scrape the sting off and out of the skin with a knife blade or finger-nails, rather than pulling it out, as pulling squeezes the poison out of the poison sack attached to the sting and forces the contents into the flesh; then wet the end of a finger with the camphor and sop it on the wound two or three times and let it absorb in for about a minute, then repeat the application. In five minutes the pain will be all gone and no swelling, if properly done.

Five or six years ago I received two stings on the very edge of the lower eyelid, and each left small lumps, and sometimes these would get as large as a pea and fill with water, and once or twice I ran a fine needle through them and let the water out, but they would fill again. I tried tincture of iodine and various solutions without effect, and a year ago I dosed them every evening for two months with a solution of boric acid and water with just a little spirits of camphor in. This removed them completely and there is no mark of ever anything having been there. So I say when you want to cure a bee sting quickly, use camphor.

Elias Fox.

Statement of Imports

Honey entered for consumption in Canada, and Canadian exports of honey by countries, during fiscal year ended March 31, 1927:

Imports entered for consumption

From	Pounds	Value
Great Britain	264	$ 54
British West Indies, other	1,322	106
Hong Kong	1,723	275
Jamaica	11,673	603
New Zealand	72	15
China	40	10
Hawaii	591	46
Russia	130	13
United States	69,652	13,209
Totals	85,467	$14,331

Exports to	Pounds	Value
Great Britain	408,441	$ 48,090
British West Indies, other	120	10
Newfoundland	780	111
Belgium	56,173	4,372
China	1,320	252
Denmark	21,720	3,325
Dutch E. Indies	471	119
France	9,129	837
Germany	396,640	38,417
Netherlands	604,566	42,541
Norway	3,540	363
United States	65,812	9,118
Totals	1,568,712	$147,555

Bee Pictures

A recent issue of the Auckland, New Zealand, Weekly News contained a page of pictures taken at the annual field day at the state apiary at Ruakura. The photos were especially well chosen and of such a nature as to arouse the interest of the general reader.

Controlled Mating of the Honeybee

Part 3 — Some Adaptations and Limitations of Instrumental Insemination to the Control of Mating in Honeybees

By Dr. Lloyd R. Watson

ACTUAL control of the mating of queenbees by any practical method whatever opens the approach to a problem the solution of which has been the dream of thoughtful beekeepers for more than three generations. The scientific pride and satisfaction which comes to stock breeders from the development of new and superior strains of sheep, cattle and fowls, and which is so evident at every country fair and stock exhibit, is hardly shared by the beekeeper. When he exhibits his cultures his meager pride must rest principally upon types of bees which have so recently been imported from distant countries that they have not yet had the opportunity to hybridize with their domestic and low caste cousins. Every beginning is a struggle against resistance, but a beginning has been made, and the prospect brightens that the time-worn apology that the mating of the queen could not be controlled may now, at least in more technical bee culture, be replaced by a similar pride in scientific selection and accurate pedigrees.

Instrumental insemination offers perfect control in the selection of both parents of any cross in bees, just as has always been the privilege of breeders of other farm animals. Obviously the breeder must take measures to prevent his virgin queens from leaving their hives for uncontrolled mating before he is ready. This is a simple matter, but it must be done, and it must be done effectually. Also, after the queen has been treated she must be prevented from flying out in search of further nuptials, as she may try to do in case her first insemination was not very copious. The attempt on the part of a queen to leave the hive after she has been treated may mean that she actually received but few sperms into her spermatheca and still retains the physiological urge of a virgin queen. In some kinds of experiments where a mixing of sperms from two or more males is not objectionable so long as they are from approved males, such a queen may be returned to the laboratory for a second or even for a third injection. However, as the technique of insemination becomes further refined, and as greater skill is acquired in the selection of functionally mature cultures, it seems reasonable to expect that this operation will become quite as certain of results in bees as it has long been in the case of certain larger animals.

On account of the exacting microscopic technique involved, instrumental insemination of queens is not adapted to the use of beekeepers untrained in delicate and microscopic manipulations. However, any practical microscopist who possesses a sympathetic understanding of bees should be an apt learner of this method, and after a few lessons he would find the technique surprisingly simple.

The controlled mating of queenbees places a new science in the biological curriculum, viz., honeybee eugenics. Fortunately these insects possess many of the qualities necessary for suitable material upon which to make genetical researches. From among these qualities the following may be mentioned: (1) The life cycle is short enough to permit the rearing of three or more generations in one season. (2) The amount of progeny obtained from a single copious insemination is large. (3) As compared with the common fruit fly, which is so highly prized for its usefulness in studies of heredity, bees are large enough to permit of much careful scrutiny without the aid of a microscope. (4) Although the known, measurable, hereditary characters of bees are not at present very numerous, yet there is ample reason to believe that more of these characters will be discovered when bees are subjected to more careful scrutiny. (5) Bees are hardy; they are easily cultured, and because of their economic relationships, any eugenic improvements achieved with them would obviously have immediate practical value. (6) Finally, the fact that all the eggs of honeybees, both of queens and of workers, may be hatched and grown to maturity whether they have been fertilized or not, affords many a short cut in genetical methods, and materially abridges the breeding problem.

Instrumental insemination at once suggests the possibility of double insemination—i. e., the injecting of a virgin queen with mixed sperm from two or more drones of different strains to test the comparative viability of the resulting hybrids. It also suggests the converse procedure of inseminating two queens with sperm from the same male.

As mentioned above, slight inseminations may be corrected by repeated treatments, and experience points interestingly toward the possibility of prolonging the reproductive period of a queen by means of follow-up treatments in succeeding years, but for obvious reasons this has not yet been demonstrated by actual experiment.

The mention of another interesting experiment may not be inappropriate at this time, viz., the apparent possibility of inseminating a virgin queen with sperm which has been taken from the spermatheca of an older fertile queen. The older queen, in this case, would virtually be a living repository within whose body has been stored for safe keeping for months, or even years, sperm which we now use for injecting another queen. Since at certain seasons of the year it is difficult to find drones from which to derive sperm for experimental purposes, and since a queenbee exerts no known physiological effect upon the germ-cells in her spermatheca, but only one of mechanical protection, this experiment would insure active sperm at any season of the year when it might be needed. In certain genetical analysis an alternative such as this would be of considerable value.

"Sports" in the honeybee species seem to be very rare. Only a few of these mutations have ever been reported, and for apparent reasons none of those reported could be preserved and propagated for more than a generation or two. There is every reason to believe that slight mutations frequently do occur in bees just as they do in other animals and in plants. An outstanding example is probably found in the case of the remarkable, long-tongued queen which was found some twenty years ago in the apiary of the A. I. Root Company. This sport appeared without warning, and the character of long tongue was hereditary from the first, but since the mating of the daughters of this queen could not be controlled, the character of long tongue was soon lost.

Mutations may be so slight as almost to escape notice, but when they are observed, and when mating can be controlled, they may, in the hands of the geneticist, serve as starting points for hybridizing and selecting experiments, which may finally lead to greatly improved types. Unfortunately the commercial beekeeper and the busy queen raiser possess neither the training, the time nor the equipment with which to make scientific use of the

few sports that do appear in their stocks. It is, therefore, greatly to be hoped that inspectors and owners of bees throughout the country, who appreciate the need of our profession for improved types of bees, and who are willing to cooperate in developing them, will be alert to observe any departures, great or small, from the usual types of bees, and in case of discovery, to communicate the fact immediately to some biological laboratory, like the Bee Culture Laboratory in Washington, D. C., from which an investigation by experts could be made. In this way the valuable features of a sport which might otherwise be entirely lost might, in the hands of experts, be tested out and propagated for the benefit of the whole beekeeping fraternity.

Instrumental insemination opens a new field in biological research which stretches away where only the imagination can follow. However, young enthusiasts should be warned against expecting results too soon. Although the controlled hybridization and selection of honeybees possesses unquestionable economic value, yet that may be a remote value. The work should be done under endowment, where the continued pursuit of the problem will not be conditioned upon immediate financial returns. The ordinary, shrewd business man would hardly consider the financing of the problem to be a good money investment, because the prospect of money return is so far in the future. It is greatly to be desired that practical beekeepers of influence and vision should everywhere study and organize to bring this matter to the favorable attention of the trustees of biological research foundations.

Bees In Town

Pembroke, Ont., April 21.—Notice of introduction of a by-law to prohibit the keeping of bees within the town limits of Pembroke, except on farm lands, followed the visit of a deputation to the town council from members of St. John's Lutheran congregation and residents in the neighborhood of the church. They complained that people attending church worship had been stung by bees from a nearby apiary and that their pastor, Rev. T. Luft, had threatened to resign if the nuisance was not removed. Women present complained that their washing, hung out to dry, was ruined by the bees and that it was unsafe for their children to play in the yard or to do any gardening. There are sixty hives in one apiary in the section complained of. It is understood that the beekeeper will contest the by-law, which, judging from the remarks of the councillors, is sure of passing.—(Clipping.)

Many laws are passed that are dead letters because they do not conform to common sense. In the United States, many years ago, the supreme court of Arkansas decided that it was illegal to pass laws or ordinances prohibiting the keeping of bees, although any individual case could be thus treated, owing to its having proved a nuisance. It is very rational to take that view of it. One might as well forbid the keeping of dogs in any city because a certain dog has bitten a child. The ordinance of the city council of Pembroke, if passed, will prove a dead letter except in the cases where the bees of a certain apiary have been proven guilty of a nuisance.

A Philippine Bulletin

"Honeybees and How to Raise Them" is the title of a bulletin recently issued by the Bureau of Agriculture of the Philippine Islands. The author is Faustino Q. Otanes, entomologist, who spent several years in the United States and graduated from the University of Illinois.

The bulletin is of special interest in that it gives, in addition to information concerning the care of Italian bees, instructions for management of the small native bee, **Apis indica.** The Italian bee is recommended, but few are as yet established in the islands.

Equipment used for Italian bees is not suited for the smaller native ones. The spacing between frames is too wide for them and the small bees will build additional combs between them, thus making it impossible to remove the combs without damage.

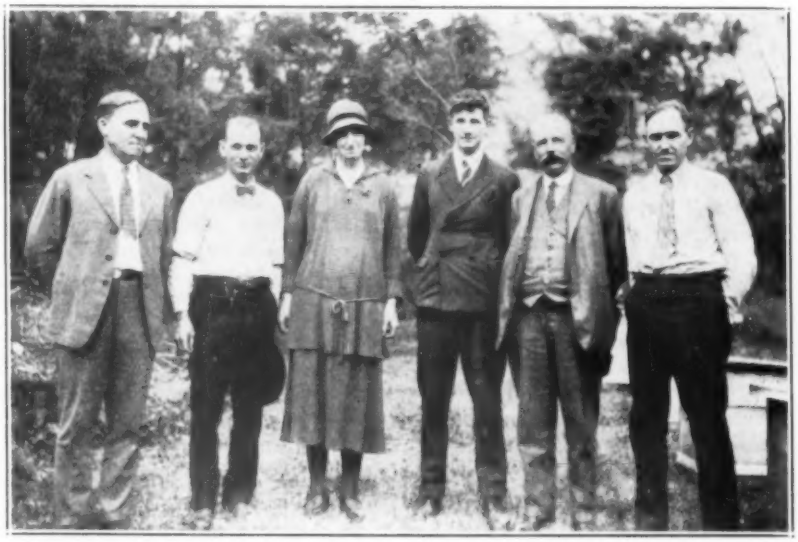
Those interested in securing copies of this bulletin should address the author in care of the Bureau of Agriculture at Manilla.

Honey Booklets In Demand

A recent letter from Mr. E. J. Freeman, advertising manager of the Kellogg Company, states that in the past few weeks they have received more than six hundred letters direct from beekeepers requesting their honey pamphlets, to be distributed to prospective honey users.

This means that thousands of these booklets have been distributed by the Kellogg Company free to beekeepers for their use in helping to boost the sale of honey.

Our English Visitors



Second from right, Mr. Herrod-Hempsall, of the British Ministry of Agriculture; to left, his son, Maurice, and Mrs. Herrod-Hempsall

ON May 23-25 we had the pleasure of a visit from Mr. W. Herrod-Hempsall, in charge of beekeeping at the Ministry of Agriculture and Fisheries of England, with his wife and son. He had just visited Jay Smith in Indiana and was going on to Ames, St. Paul, Madison and Canada. It is quite a pleasure to exchange ideas with our cousins across the Atlantic by personal contact.

Mr. Herrod-Hempsall as the official apiarist for the British government is well known to American beekeepers. He was formerly editor of the British Bee Journal and is the inventor of the radial honey extractor.

The photo, taken in a Dadant apiary, shows three members of the Dadant family with the visitors.

Tables covered with honey cooked goodies entered in contest

Results of Lewis Honey Cooking Contest

SIXTEEN hundred and eighteen entries of honey cookies and an equal number of honey fudge were received in the Lewis honey cooking contest. Miss Mary I. Barber, director, Home Economics Department, Kellogg Company, Battle Creek, judged the contest.

The prize winners are:

Honey Cookie Contest

First, Mrs. Henry Hilker, of Spalding, Neb. $100.00
Second, Mrs. Rud. Luedloff, Cologne, Minn. 25.00
Third, Mrs. N. B. Querin, Bellevue, Ohio 10.00

Honey Fudge Contest

First, Miss Goldie Bixby, Lisbon, N. D. ..... $ 15.00
Second, Mrs. O. B. Tollifson, Dalton, Minn. 10.00
Third, Mrs. C. Walter, Altoona, Iowa 5.00

Winners of the honorable mention $1.00 prizes in cookie contest are:

Ruth Gladys Lee, Mitchelville, Ia.
J. H. Teague, Siler City, N. C.
Anna Hadenfeldt, Davenport, Ia.
Verna Senn, Campbellsport, Wis.
Mrs. Mina P. Cowles, Ashville, N. Y.
Mrs. Hawk Woodruff, Port Barre, La.
Mrs. L. A. Schultz, Reedsburg, Wis.
Mrs. D. Baasch, Tower City, N. D.
Lucile Bartlett, Kalamazoo, Mich.
Mrs. H. O. Kiehne, Kensington, Minn.
Mrs. A. E. Wusslund, Paxton, Ill.
Mrs. R. J. Rood, Waupun, Wis.
Mrs. L. Eberle, Chatham, N. Y.
Mrs. George Caflisch, Simpson, Minn.
Mr. F. J. Barker, Bloomville, N. Y.

Winners of the honorable mention $1.00 prizes in fudge contest are:

Neola Skrove, Dalton, Minn.
Rose E. Kelly, Menomonie, Wis.
Mrs. H. A. Carpenter, Moorhead, Miss.
Mrs. Ralph R. Wallace, Nitro, W. Va.
Alice Kelly, Menomonie, Wis.
Mrs. Austin Briggs, Calamus, Ia.
Mrs. K. Mikkelsen, Nome, N. D.
Mrs. Jens Christensen, Montevideo, Minn.
Ella Schneider, Pulaski, Wis.
Mrs. R. A. Ritterbush, Bismark, N. D.
Mrs. Frank Rusmussen, Greenville, Mich.
Mrs. G. R. Kennedy, Sioux City, Ia.
Ella E. Mueller, Muscoda, Wis.
Margaret Funk, Watertown, Wis.
Clara Maass, Templeton, Wis.
Mrs. E. J. Morey, Velva, N. D.
Marjorie Pouse, New Hampton, Ia.
Mrs. E. L. Lorshbough, Clark, S. D.
Amy J. Youngs, Tracy, Minn.
Mrs. Edna McGuire, Nelson, Mo.

As to the quality of the entries, Miss Barber, who has had a wide experience in judging food products at state and county fairs, said that she has never seen a more uniformly attractive collection of food products.

At the close of the contest the entries were turned over to the American Legion Auxiliary. This organization distributed two large baskets of the cookies and fudge at a home for unfortunate children. The remainder was sold by the Auxiliary for over forty dollars and the proceeds used for charitable work, such as the southern flood relief.

From the results obtained it would appear that this contest created a good deal of additional interest in the use of honey. Home demonstration agents in a number of counties held honey cooking contests and the best entries from these contests were sent to the Lewis contest. Many beekeepers also interested their customers to enter this contest.

In order to obtain additional publicity for honey, it is suggested that beekeepers interest their local newspapers in publishing the results of this contest and the recipes of the winning entries.

Prize Winning Honey Cookie Recipes

First prize recipe—Miss Fischer's honey cookies:

3 eggs well beaten
1 cup honey
1 1-3 cups flour
1 teaspoonful vanilla
1 cup chopped nuts
1 pound chopped dates
1 teaspoonful baking powder

Mix honey and well beaten eggs together. Add baking powder and flour sifted together, then chopped nuts and chopped dates. Bake in long, flat tin; mixture should be one-fourth inch high in pan and one-half inch high after baked. Cut into

strips one-half inch wide and three inches long and roll in powdered sugar before serving. Pack away in crock.—Mrs. Henry Hilker, Spaulding, Nebraska.

Second prize recipe—Caramelized honey cookies:

2 cups caramelized honey
1 cup sorghum
1 cup lard
½ cup butter
1 tablespoonful ginger
½ teaspoonful salt
4 teaspoonfuls soda dissolved in 10 tablespoonfuls of boiling water
1 tablespoonful vanilla
Flour enough to roll. (Mix ginger with flour)

To carmalize honey: Put two cups of honey in a saucepan and cook until a little dropped in cold water forms a soft ball; let cool a little. (I do this because hot honey boils over easily when hot water is added.) Now add one-half cup hot water to honey, let boil for about five minutes, again let cool. This should equal two cups.—Mrs. Rud. Luedloff, Cologne, Minnesota.

Third prize recipe — Economy honey cookies:

1 cup honey, light or dark
2 eggs
1 teaspoonful soda
½ teaspoonful cloves
Pinch salt
½ cup shortening
2½ cups flour
1 teaspoonful cinnamon
½ teaspoonful ginger
1 cup raisins

Heat honey, add soda and shortening. Then flour, spices and salt sifted together and beat hard. Then add the eggs well beaten. Last add raisins or any fruit you wish.—Mrs. N. B. Querin, Bellevue, Ohio.

Prize Winning Honey Fudge Recipes

First prize recipe—Honey fudge:

2 cups granulated sugar
1 square chocolate
¼ cup cream
Butter the size of a walnut
¼ cup honey
¾ cup milk
1 teaspoon vanilla
1 cup nuts

Boil sugar, milk and chocolate for five minutes. Add honey and butter, and boil until it forms a soft ball when dropped into cold water. Let cool, then beat until ready to harden and add vanilla and nuts. Pour on buttered pan and when hard cut in squares.—Goldie Bixby, Lisbon, N. D.

Second prize recipe, Miss Fischer's honey fudge:

½ cup condensed milk
¼ cup honey
1 cup brown sugar
1 pinch soda
1 pinch of salt
1 cup cane sugar
1 square chocolate
2 tablespoonfuls of butter

Mix sugars, condensed milk and chocolate and salt together. Cook slowly for about five minutes. Then add honey and pinch of soda. Cook until firm ball is formed when dropped in cold water. Remove from heat, add butter, and beat vigorously until soft enough to form flat cakes when dropped from a spoon. Pour onto buttered plate and when set cut into pieces two inches square. —Mrs. O. B. Tollifson, Dalton, Minn.

Third prize recipe—Honey chocolate fudge:

2¼ cups sugar
1 cup cream or rich milk
½ cup honey
1½ squares of chocolate
1 cup nut meats chopped fine

Cook until it forms a firm ball when tried in cold water. Take from fire and stir until it starts to grain. Pour out at once; mark in squares when cold.—Mrs. C. Walter, Altoona, Iowa.

Manzanita a Wintertime Tree

By Leslie Burr

MANZANITA makes one of the best fire-woods to be found. Bears are fond of the berries, and bees like to gather honey from its blossoms—that is, when they are not prevented by cold weather. The blossoms yield heavily and the honey is very good.

But it is as an example of plant evolution that the tree is most remarkable. If there is any other tree or shrub that can grow and bloom under climatic conditions such as we have here during December and January, I am not aware of the fact.

In the matter of plant evolution—that is, how plants develop to meet changed environment—I was early interested. One of my earliest memories is hearing my elders discuss the finding of certain preserved specimens of prehistoric vegetation in one of the coal mines at Braidwood, Illinois. From my first-hand knowledge of coal veins, the stories told by coal miners, and from the writings of geologists, I have a mental picture of the living vegetation that formed the coal veins. But I doubt that the bee had much to do with the prehistoric plant life of the coal age. I believe that the bee is a greater force in the present age in the fertilization of plant blossoms than at any previous age.

But to come back to the manzanita. This plant is tropical vegetation—that is, it carries its leaves throughout the year, and grows during all seasons. It also has the odd habit of putting forth its buds during the shortest days of the year and of shedding its bark each summer. But strangest of all is the ability of the plant to grow in the North at the time when other plant life is dormant.

California is a place where, by making a short journey, almost any kind of climate can be found at any time of the year. Here in northern California, at latitude the same as central Illinois, at a distance of about forty miles from the coast, and at an altitude of about 1400 feet, with annual rainfall of from 50 to 60 inches, temperatures of 18 to 20 degrees below freezing are not unusual during December and January. An old-timer tells of the thermometer once registering zero. Yet manzanita is very plentiful here and is found at altitudes considerably higher than 1400 feet.

So when a tropical plant has retained its tropical habits under such climatic conditions, I think it is very remarkable in adapting itself to environment, or shows rather a highly developed ability to resist the hardships imposed upon it by environment without surrendering its tropical characteristics.

Honey Apple Rings—6 Portions

Core and slice in one-half-inch (½ in.) rings, four medium size red apples. Cook four to six rings at a time in a syrup made of one (1) cup water, one (1) cup honey and two dozen small red cinnamon candies. Cook until transparent. Remove three rings to each salad plate, pour the remainder of the syrup over the rings. This forms a delicious jelly-like coating. Serve plain or with the following dressing: One-half (½) cup whipped cream, two tablespoonfuls salad dressing, one-fourth (¼) cup chopped dates, one-fourth (¼) cup walnuts, and three marshmallows cut fine. This makes a delicious dessert or salad.

Mrs. Newman I. Lyle.

About Bees

The Boston Globe has recently published a series of interesting articles about the honeybee, by John H. Lovell, of Waldoboro, Maine. The articles were illustrated and described in considerable detail the behavior of the insects.

What of the League?

By C. L. Corkins, Secretary of the American Honey Producers' League, Laramie, Wyoming

WHAT about the American Honey Producers' League? If the progressive beekeepers of America would only give that question serious consideration, we could naturally expect a strong national union of beekeepers to result. To all who are not members, we make this appeal: At least give us the consideration of laying some of the facts of the League before you. Won't you sit down right now and drop us a postal card asking for a copy of the new constitution and of the new official organ, the American Honey Producer?

In this day and age, when organizations of men, not individuals, can accomplish things, we assume that there is little question in the minds of beekeepers but what we need a strong national association. We, as your officers, are but your servants and at your command. All of us are making beekeeping our life work. In other words, the League is yours, not ours, and yours to make of it what you will.

The basic problems of our industry are educational. An enlightened beekeeping public and a unity of purpose and spirit are the need of our day. We look upon disease control, price cutting, inferior grades and packs of honey, lack of consumer demand and slovenly back-lot beekeeping as national problems. What are these but educational problems? And how little are our individual voices heard above the multitudes. Just suppose for a moment that the League had a budget of $15,000.00 annually over a ten-year period with which to attack these problems in an organized way and with the best minds of the industry back of a program of spending this amount to the best advantage! It would work wonders, you will doubtless remark. Listen, brother beekeepers, it would take only 10 per cent of the beekeepers of America as individual members in the League to make this amount of money available, above all overhead expense of the society. The basic considerations of the new League constitution are educational and are designed to attack these fundamental educational problems.

For the present year, there are two important projects now under way. The most important is the official publication, the American Honey Producer. With the League on its last legs at the close of the year, it has been a big undertaking to get this journal started. It has not yet reached the standards desired, but it is assured of maintaining the present level. The greatest difficulty so far encountered is getting sufficient high class material for publication. It is our endeavor to use information which will be of value to all beekeepers, whether large or small. Prior to the production season we are especially anxious to have articles upon the handling, grading, processing and canning of honey for the trade. More uniformity of preparing the crop for the consumers is one of the great needs of today. Above all, we should keep inferior grades and packs of honey off the market. We urge those who have had unique experiences along these lines to write articles for us. In addition to this, the Producer will be used as an outlet of new, scientific facts about beekeeping. By all means this journal will not be merely for League propaganda. The League business section will be held to the barest minimum.

The general education of the consumers to the superior health and food value of honey will be the second large project. The publicity campaign now organized can be made an important factor in consumer demand. The expense of this work must and necessarily will be held to a minimum. Its success does not depend upon a large working capital. It depends almost wholly upon a lot of work by a lot of people, and then a conscientious effort upon the part of all beekeepers, members or not, to make use of it. The scheme is simple and practical enough A large committee of writers from the fraternity has been carefully selected by the president. Each state committee will write newspaper stories about bees and honey. These will all be assembled by the national chairman of the publicity committee. The League will then have these stories mimeographed and furnished to every state association. The state associations will mimeograph enough copies for the benefit of such of their beekeepers as can use them. These can all be gotten over in the newspapers, if the beekeepers will give of their time to push them. They should be used in connection with local advertisements and the general advertisements of the larger honey distribution agencies. In other words, when the readers of the column stories about bees and honey become interested, they should find a companion ad which will tell them where they can fulfill their desires. To interest people in honey without telling them where to get it would be fatal. That is the inherent weakness of any gigantic national advertising program at the present time, without national distribution to back it up.

This publicity campaign should be continuous. Sporadic use of this material will be of little avail. Every week of the year should be a national honey week. When the beekeepers get these stories in hand they should lay out with their newspaper man a definite twelve months' program for their use. Local and county associations can do this better than individuals, for by united effort companion ads can be run with the stories every week.

There is now tentatively being considered a program of education with the medical profession of America on the uses of honey in the public diet to a larger extent. If this materializes, it will take the form of a quarterly pamphlet. Two problems are apparent: first, the lack of sufficient scientifically accurate information based upon first-class research on honey, and second, finance. Much of our information as to the food and health value of honey is superficial and can scarcely be used with safety with a group of highly scientific men. The safest method of approach to the medical profession at the present time is by interesting them in the scientific facts about bees themselves, and then tack on such bits of reliable information about honey as are available. To keep the project going, it is imperative that the League demand that the public institutions of research upon food products give our industry and its product more consideration. We can get this only as it is demanded by a strongly organized body of beekeepers. The second problem, that of finance, can be solved by the addition of 500 more individual members. It can't be solved by the addition of organization members only.

Before we launch this project with the medical profession definitely, we wish to have more expression of opinion by beekeepers and scientific apiculturists. If the secretary's office were flooded with letters of comment upon it, we could better decide whether or not to definitely go ahead.

There are several minor projects of the League now under way. These will be discussed in another article. But what of the League, anyway? Do you want it to live and succeed, or shall we do away with any form of national organization? What thinking you do and what action you take this present year, before the next convention in San Francisco, will doubtless be the deciding factor.

Automatic Smoke

By Frank Beach

IN the taking off of extracted honey a continuous smoke is much to be desired. With the regular smoker used by beekeepers this is hard of accomplishment. The operator cannot well work the bellows and take off the honey at the same time, and when the smoke is not in operation the robber bees, if there is no honey-flow at the time, are ready to help themselves to the honey of the colony being operated on. The colony becomes alarmed and ready to sting, and the taking off work is productive of stings a-plenty.

For several years I have used an automatic smoke that has given satisfaction and taken away the danger of robbing, and greatly lessened the work of taking off.

The five-gallon can used by the beekeeper for the canning of his honey serves as a smoke pot. The top of the can is removed and a hook of stiff wire is secured to one side of the can by punching a hole in the top center of one side of the can. This hook of stiff wire is so made that it will slip over the edge of a super and hold the can in place. Another method of preparation of the can I like better is to nail two cleats of wood, about one inch by three inches by nine inches, on the can at the top, one cleat on the inside and the other on the outside of the can. Nails are driven through the cleats and the can and clinched.

Through these cleats and the can two holes are bored about three inches apart, and a heavy wire run through the holes, the ends of the wire being bent down even with the inside cleat, leaving sufficient wire on the outside of the can to form a loop hook which fits over the edge of the super when in use. The cleats serve as a hand hold in moving the smoke pot and prevent the danger of burns from the hot can.

The bottom of the can is used without openings for draft, as the air coming in from above is sufficient for all purposes, and the lack of a draft from the lower part of the can helps prevent the smoke from bursting to a blaze.

Fire is started in the can, using a good smoke-producing fuel. I use old potato sacks that are torn or discarded, as a base; on this I pour old waste crank-case oil, just the right amount determined by trying different amounts. This makes a splendid thick, white smoke.

In this country, with potatoes being a major farm crop, the potato sacks are obtained for the asking. If I were in a corn country I believe I would try out corn cobs, or in a timbered country I believe rotten wood would make a fine smoke.

The making of a good smoke is the same kind of a problem as using a good smoker fuel in a regular bee smoker, only coarser fuel is desirable and a greater volume of smoke. Use just the right amount of old crank-case oil on the fuel; too much oil tends to go out or burst into a flame instead of just sending out a dense cool smoke. This part of the operation must be determined by each operator for himself, and when the right combination has been determined things will go right and a constant smoke be coming out of the top of the can. If the fuel should blaze forth, smothering with more fuel, a dose of water, or putting on green grass or weeds generally puts the pot to working right. At most it requires no more attention than the regular bee smoker.

To operate, place the smoke pot on the side of the super from which the wind is blowing. As the smoke comes out of the pot the wind carries it over the top of the frames, the bees immediately go down, and the operator is ready to begin. The smoke is continuous and the robber bees that may be about do not go through the smoke, and so do not get started robbing. The smoke being constant, the bees of the hive stay down and do not get started to stinging.

Occasionally, with no wind stirring, the smoke goes straight up. With the bee brush the smoke may be fanned over the tops of the frames, for a time, as the lack of a breeze is generally but for a few moments.

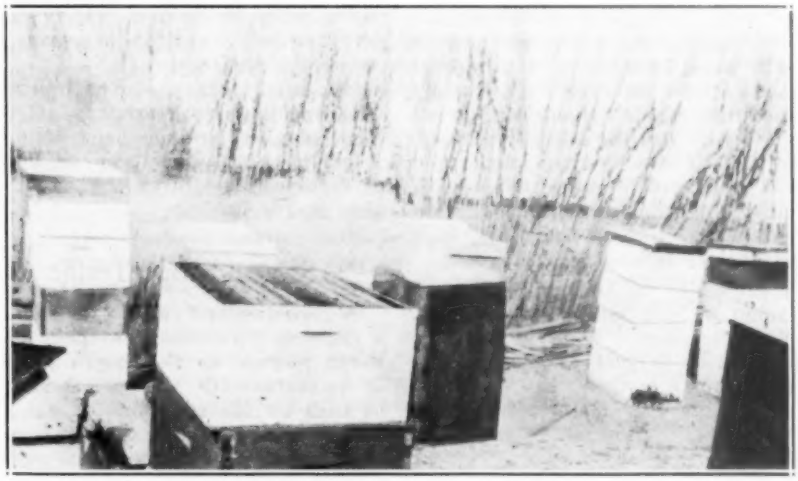
When I first started to use this smoke pot, I lit the regular smoker at the same time and used it to start the smoking of the colony. I soon found that this extra smoking was not necessary, as immediately the cover is off and the smoke can in place it begins to operate at once, giving an abundant volume of smoke just where it is wanted.

The pictures show the smoke pot placed on the side of the super, and the hive open for operation, the smoke flowing over the top of the frames.

I have used the smoke can for several years and would not think of going back to the smoker for taking off honey. We used the smoke can during the season of 1926 in taking off 90,000 pounds of honey, beginning July 15 and finishing in September.

Anyone wishing to try the automatic smoker may be assured that it is not an experiment, but a tried procedure, the success of which has been proven. Idaho.

(We have discarded all sorts of continuous smoke in taking off honey for two reasons. First, it often gives a very positive taste of smoke to the honey, which is objectionable to people of fine taste. Secondly, it frightens the bees of the colony operated upon, to such an extent that they are unable to fight the robbers, if there are any, when the hive is closed again. We prefer to use a very limited amount of smoke and remove the supers and close the hive, or, better yet, use a bee escape on the hives the previous afternoon.—Editor.)



Automatic smoke in use. Note willows woven into fence in back for windbreak

The Appearance of the Honey Package

By J. E. Crane

WE have been having a dress party at our house, and a queer and yet most interesting party it was of more than twenty guests, all dressed up in their best market dresses. And if you will believe it, the party was held on the pantry shelf, and the guests were various kinds of groceries, all dressed in a variety of colors so as to look as attractive as possible. I wish the readers of the American Bee Journal could have been here so we could have looked them over together and noted how skillfully and attractively the various kinds were dressed to catch the eyes of customers and so advertise them. As this cannot be, I am going to test the editor's watchful care of space and give you a few pictures of the front and back sides of some of them. A photo does not do them justice, as it does not show the attractive colors in which they are clothed.

The first is **Rinso,** a kind of powdered soap, the name in large letters on the front side and various methods of using on the back side.

Comet Rice, another, is dressed up in fine shape, front, back, sides, and ends.

Then we have **Postum,** apparently made from whole wheat, bran, and molasses, roasted together and ground fine, but "contains not a single drop of caffeine or anything injurious." I can believe it. In other words, it looks as though a few cents worth of wheat and molasses are mixed, burned and ground and put up so attractively and convenient that we pay 80 cents a pound for it and flatter ourselves that we are economical. Most of the expense evidently goes into the package, advertising and pockets of manufacturers.

Tuffed Sun Maid Raisins, another guest at our party, shows on the front side a maiden with a tray of great clusters of Muscat grapes that make one's mouth water to look at them. If I remember correctly, they are 20 per cent sugar. On the back side of this package it tells of the advantages these raisins have over others, so we can hardly help buying them.

I said all our guests were dressed up in fine market dresses. This is not quite true. When I was a small boy my mother punished me quite severely for telling a lie. I did not know before there was anything wrong in telling a falsehood, but I learned my lesson then and there and have had a very wholesome respect for truthfulness since that eventful day. But someone will say, how absurd to punish a child for doing something it did not know to be wrong. Well, the mothers of eighty years ago were busy folks. With the care of the house, the dairy, providing food for the family, and the rearing of many children, their hands were pretty full. They had little time for fine-spun theories, or fiction, or card parties, or even for divorces, and a little switch kept behind the great clock or a picture frame on the wall was as useful in every well-regulated family as candle rods for dipping the yearly supply of tallow candles. Besides, this way is true to nature's methods. A hot iron burns the hand of a child that touches it, although ignorant of its nature, quite as surely as it burns the hand of one who knows all about it.

As I was going to say, there was one guest that was not well dressed. It looked quite out of place. It looked much like a maiden that should get up in her sleep and go to a well-dressed party in her nightdress. Should she wake up, she would feel a good deal embarrassed, I am sure.

Who do you think this guest was that was dressed so shabbily? Well, if I must tell, it was a white carton holding a comb of honey. It was not all white, however, for one side was printed showing two small hives, the address of the beekeeper who packed the honey, and two facts about the honey. One was that it was number two honey, not first-class, and the other was that the minimum net weight was ten ounces, which meant that while the package was supposed to weigh about a pound this one might not weigh over ten ounces. Neither fact very tempting, but they were at least honest. The top, both ends, and the back of the carton was left blank, which might have been filled with advertising matter, or some of the many interesting facts about the food value and healthfulness of honey. The cost of covering top, ends, and both sides with print advertising honey would be little more than printing one side. And, oh! how much better it would have looked.

Meanwhile beekeepers are complaining of dull markets for honey. I don't wonder. What is true of comb honey is just as true of extracted honey in tins. But the facts remain that the manufacturers of "Ho Oats," "Postum," "Shredded Wheat," "Pearled Tapioca," etc., are wiser in their generation than many beekeepers. There was doubtless more honey consumed on the farms fifty or seventy years ago than at the present time, for there were many more beekeepers. Then most of the honey produced was consumed at home or by neighbors of those who kept bees. Today there are but few beekeepers, and these commercial beekeepers, at least most of them, keep large apiaries and produce large quantities of honey, most of which goes to our cities. While in the old times comb honey could be sold in tin pails or wooden buckets or in any way to neighbors, today it must compete with other foods on the shelves of the grocers; and it is just as necessary for the honey producer to know how to put up his honey in attractive packages, if he would sell his honey promptly and at good prices, as to know the time it takes for eggs to hatch or to rear a queen. If he does not do so he must be content to accept a low price for his honey, and a slow market.

The matter of labels for package honey is an exceedingly important one, and if a young beekeeper has not had the experience let him go into a first-class grocery store and study the large number of foods, some of them of humble origin, all put up so attractively that it seems almost like an art gallery, and then note the shabby way much of the honey looks beside it. I believe he will thank me for calling his attention to it.

Nevada Apiary Report

The report of the State Apiary Commission of Nevada for 1925-26 has recently appeared. A tax levy of 20 cents per colony is set for support for the inspection work. Since Nevada is a sparsely populated state, with beekeepers widely scattered, much travel is necessary to cover the entire area.

The area cleanup plan is followed, of inspecting new territory after a particular region has been cleaned. Much of last year's crop of honey is reported as still in the hands of the producers.

Swarm Stops Traffic

A New Zealand reader has sent us a clipping from the front page of a Perth newspaper showing a picture of an automobile with a big swarm of bees on the radiator. A column of space is given over to the account of the clustering of the swarm on the auto in the city street and the excitement that resulted.

The Use of Queen Excluders

By S. J. Griggs

In looking over the American Bee Journal for February, I am attracted by the notes of its editor, whom I have had the pleasure of meeting and hearing at many of the national conventions which are now history, and one does not need to meet Mr. Dadant to be convinced of his good, sound ideas in the successful management of bees. The article on half-story supers is well worth anyone's reading.

It brings back a very pleasant incident to the writer, of an Ohio bee man who has long since passed on. His name was Wad Taylor, and he resided in Ottawa county, Ohio; a very peculiar man, as he seldom told any of his secrets or his management, but Wad Taylor always had fourteen barrels of the best white clover and basswood honey; and it did not seem to matter whether anyone else had a full crop or not, Taylor always had fourteen barrels of honey.

I had come to know the fine old man well, as he always wished us to have his honey. One day I said: "Now, Wad, how does it come? Chapman has only a half crop and is only about twenty-five miles from you, and in as good a location, but you have your usual fourteen barrels."

"Well," he said, "I'll tell you. Now you know I don't say much about how I do it, but I never use any of those darned excluders. They are right in the way of the bees all the time; let the queen have all the room she wants and when she is done she will come down of her own accord."

"Well, but, Wad, don't you have a lot of trouble with the mothworms?" "Naw, just do as I do and I will show you," and he took me to a well lighted room in his house upstairs, where he had the complete use of a large bedroom, and this was full of racks just the right size to slip the combs in. "Now," he says, "let the bees clean up the combs and then put 'em in here, where the light shines on 'em, and leave the windows open and screen 'em, and you don't have no trouble with mothworms."

I have always believed that any colony of bees, whether on full combs or half combs, would do better work if queen excluders were left out, as most producers running for extracted honey and using the L size hive use two brood chambers, and if one properly cares for the combs after extracting and either keeps them in a well lighted and ventilated room or a dark, cool cellar, but dry, he will have little trouble with mothworms.

There is an argument, however, which is not bad; and that is, some believe that combs which have been used for brood rearing color the honey. This may be so in case the combs are used many years, but if a double brood chamber, or a deep body such as Dadants have used successfully for many years, is used, the bees will not breed in the supers enough to make any material difference; that is, if they are removed after the honey is extracted, as the combs should always be cleaned and then put away for another season.

Queen excluders, or honeyboards, as some call them, are made and it is a matter of choice with the producer as to whether he prefers using them or not, but, as Editor Dadant has told you, they not only retard ventilation, but are no doubt an obstruction to the bees, as it is reasonable to see they cannot go through them loaded as quickly as they can without them. Ohio.

Crownbeard a Little Known Honey Plant

By Frank C. Pellett

Crownbeard

VICTOR VINSON, of Irvine, Kentucky, writes that in July last year his bees had not made enough honey to extract and it looked like it would be necessary to feed to carry them through the winter. Late that month and through August a species of crownbeard bloomed freely and the bees worked it constantly, with the result that he secured 2026 pounds of honey from twenty-two stands of bees, and left a liberal supply for winter. He states that he saw but few bees on other flowers during the time when crownbeard was blooming.

Naturally, he is very enthusiastic about this plant and suggests that our readers try planting it on waste land. I have been familiar with crownbeard for many years. It was one of the first of the wild plants to come to my notice, because of its great attraction to the bees. I have often wondered why it has attracted so little notice among the bee men.

Apparently it is very rich in nectar, and the bloom is constantly visited by bees and other nectar loving insects. As far as I can learn, all species of crownbeard are good honey plants, at least I have been unable to determine which ones are best from the meagre correspondence received from the few observers interested. The Golden Honey Plant **(Actinomeris alternifolia)** is a closely related plant, similar in appearance and reported to be equally attractive to the bees.

The honey is of a golden color, of very good quality, and is slow to granulate.

The range of these plants is from New Jersey to Iowa and southward to Florida and Texas.

Personal Recollections of the Editor

How We Came To Compare the Langstroth Size of Frame With the Quinby

I HAVE told in the Journal that my father was induced to try the Quinby hive originally because he had seen the report of a large crop of honey harvested by Quinby at a time when large honey crops were unknown. He was well pleased with the trial and we manufactured hives of the Quinby size, containing eight frames. But I have also told how fond my father was of experimenting, so that he tried different widths of hives, from the eight-frame up to twenty frames. The latter were altogether too large. A hive capable of containing eleven frames was devised by him, with one or two division boards in the brood nest, reducing the hive at need to nine or ten frames, and, with small swarms, sometimes, to six frames.

Divison boards have several advantages. They not only permit the beekeeper to reduce the space occupied by the bees, when the colony is small, for winter, but they also help in enabling the operator to remove combs, as the division board is easy to remove and gives room to pull the combs apart. We made our division boards tight fitting at the ends, and yet easy to remove by cutting the lumber a little shorter than the inside length of the hive, then nailing a cleat up and down at each end. On these cleats we nailed a strip of oilcloth, which was always easy to remove because the propolis on it broke off easily. In winter we filled the space back of the division board with leaves.

In keeping bees in large apiaries we soon found out that the large hives were best, for when we had eight-frame hives side by side with eleven-frame hives we found that an eleven-frame super was filled just as fast by an eleven-frame colony as an eight-frame super was filled by an eight-frame colony. So we did away with all our eight-frame hives.

About 1876, an old beekeeper who had been local agent for the Langstroth patent rights, a Mr. Barlow, living some twenty miles from us, in Missouri, concluded that he could not take care of all the bees he had, and asked us to take charge of a hundred colonies or so for him. We accepted and it was agreed that I would help him haul those bees to two apiaries on our side of the river and take care of them for a year for half of the bees' increase and half of the surplus honey. This was done. His colonies were all in ten-frame standard Langstroth hives, frames spaced 1⅜ inches. We made some seventy-five or eighty divisions, half of which number were ours.

The following year we moved those colonies to some of our apiaries where we already had a goodly number of Quinby hives. This made it very convenient to compare the two styles. Here is what we found:

Under the same management, the colonies with nine or ten frames Quinby, equal in area of brood combs to twelve- or thirteen-frame Langstroth hives, did not fill their brood chamber as early as the colonies in ten-frame Langstroth hives. At the time of fruit bloom, if we placed supers upon the hives, the bees in Langstroth hives moved into the supers and bred there. The colonies in Quinby hives had no need of supers as yet and kept below, so that we concluded that it was unnecessary to enlarge the hive this early. But a little later those colonies were much more populous than the Langstroth, since they had had more room for brood in a compact brood chamber, and they filled the supers much faster than the Langstroth colonies. On page 13 of the "Dadant System of Beekeeping" I have mentioned the fact that, in an apiary situated on a large farm, the lady of the house complained of our having brought there hives of both styles, as, she said, "the large hives were the ones that brought the crops." We gave them a share of the crop and she was keen enough to notice that the crop was not equal from both large and small hives in the apiary.

The only advantage we ever realized from having hives of the Langstroth pattern in our apiaries was in being able to sell colonies in the style of frame which was most in use, for the patent taken on the Langstroth invention was a great inducement to the sale, and so the hives of Langstroth pattern were as twenty to one in the country at large, as compared with the Quinby pattern. But, just the same, the large crops were with the latter.

The only reason I can give for the large crops with the large hives is the greater ease for the queen to develop her fertility fully in frames of larger surface, and also to the better wintering of colonies in deeper frames owing to the greater amount of honey above the cluster during winter, for, in deeper frames, there is more honey in each comb.

Another advantage, which, however, has no reference to the capacity of the hive, was in the greater spacing of the combs with the Quinby, or what are now called the Dadant hives. A difference of one-eighth inch in thickness is not very great, but it is sufficient to give not only more room for the bees to move about and ventilate in summer, but also more opportunity for thickness of combs above the brood in fall and winter. I did not realize the immense advantage of this difference until later. This is undoubtedly one of the causes for the less amount of swarming in hives of broader spacing.

I do not deny that there are advantages in the C. C. Miller system of using eight-frame Langstroth hives, doubling the brood chamber in early spring so as to enable the queens to lay in large amount in both, then reducing the brood chamber to one single story at the time of putting on supers, using the best brood combs in that single story and giving the extra combs to weak colonies. It crowds the bees so that they must either swarm or go at once into the supers, and it was very probably owing to that method that Dr. Miller harvested his record crops of comb honey. But such a system requires a great deal more labor and attention than ours, and I would never think of adopting it, for with it one cannot take care of half as many colonies as with our system.

On the whole, I was positively satisfied, by the above mentioned comparative tests, that the deeper frame is much better than the shallow frame for extensive honey production.

Here is another point that we also tested: When we made divisions of those Langstroth hives we used some forty or fifty full-story supers, to compare their use with that of shallow supers. Our readers know that many people think that it is a mistake to use two different depths of frames. But we found great advantage in the shallow supers, when in connection with large brood chambers. When we used two full stories, one above the other, the queens bred indifferently in both, sometimes abandoning the lower story entirely, since they found no difference. But with half stories, the combs of the upper story being more readily occupied with honey, the queens were less induced to go up into them, as long as they had room below. So there was less breeding in the upper story. This caused us to discard the queen excluder, which we found hardly needed. The excluder has a great defect in its interfering with free ventilation, and consequently there is more swarming where it is used.

We also found that the half stories for extracting are more easily handled, with less danger of breaking combs. In cool weather they are more easily kept warm by the bees

than full stories, so the lower story is kept more uniformly warm. But one must bear in mind that our half stories are not toy stories like those of 4¼ depth. We make them about 6⅝ inches deep, and one such story contains about two-thirds the amount of honey that may be stored in a full-depth Langstroth super.

Some of our critics will probably say that, when they use the "food chamber," they have more honey above the brood than is found in our standard deep hives. That is true. But is it necessary to give a colony a whole super for food chamber? It may be needed in some cases, but I consider that a two-story, ten-frame hive is just as much too large for a colony as a one-story is too small. Some of our critics weigh, as surplus, the combs contained in the upper story, to show that they can make as good crops as we do in our large hives; then they return that upper story to the bees for winter. A properly managed colony, in Dadant frames, should have plenty of honey in the body of the hive for winter and spring.

We are of the opinion that the only reason why Mr. Langstroth adopted the shallow standard Langstroth hive was that lumber 10 inches wide is much more easily secured than wider lumber. This is probably the best argument in favor of the standard Langstroth frame.

The fact that the "food chamber" has been adopted in the past few years evidences the insufficiency of the single body Langstroth hive, as compared with the Quinby-Dadant style.

Bees Make Honey For Coolidge

So runs an item in the Washington Herald, sent in by Harold Kelly, of Silver Springs, Maryland. It goes on to say:

"President Coolidge has no taste for honey, although he now has a free supply created in his own back yard.

"During the summer a swarm of bees established themselves in the hollow of a White House tree and they have been producing honey. This has greatly interested the President, and has brought back memories of his boyhood days.

"At the age of three, the official spokesman said yesterday, the President had a fearful siege of "indigestion" because he ate too much honey. Since then he has been unable to endure either its taste or smell.

"The White House honey production, however, will not go to waste. The President is trying to find a proper outlet for the surplus."

Kelly adds: "Perhaps they are only Presidential bees, making political honey. That's why he shudders."

Beekeepers Take Notice

For thirty years we have specialized in the manufacture of **Sections** from the whitest selected Wisconsin basswood

We also manufacture hives, supers, frames and shipping cases

Write for our free illustrated catalog

Marshfield Manufacturing Company
Marshfield, Wisconsin

Hutzelman's Solution for American Foulbrood

Use Alcohol—Formalin to be safe

Ask your dealer or write to

J. C. HUTZELMAN, Glendale, Ohio

[*Money Saved*]
[*Time Saved*]

Bee Supplies

Root's Goods at factory prices with WEBER'S service. Send us a list of your wants and we will quote you prices that will save you money.

C. H. W. Weber & Company
2163-65-67 Central Avenue
CINCINNATI, OHIO

SAVE TIME—SAVE WORRY
DADANT'S WIRED FOUNDATION
Can be nailed into Lewis Slotted Bottombar Frames in a jiffy.
And such wonderful combs!
Sold by all dealers in Lewis Beeware and Dadant's Foundation

Middle Tennessee Queens

Fifteen years' experience with bees

Ten years a queen breeder
Three-banded Italians

Untested:	
Single queen	$ .70
Per dozen	8.00
Per hundred	60.00
Select Untested:	
Single queen	$1.00
Per dozen	11.00
Per hundred	80.00
Day-old queens	$ .50 each
Tested queens	1.25 each

I guarantee satisfaction and safe arrival in U. S. and Canada

MIDDLE TENNESSEE APIARIES
Leo C. Parks, Mgr.
Spring Hill, Tennessee

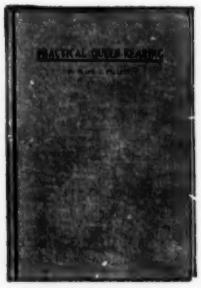
"THEBESTO" BEE SUPPLIES

Largest stock in intermountain region of hives and other supplies, especially made for western beekeepers. Prompt service We can save you money. Write now for illustrated price list. Our cooperative organization was founded in 1899.

The Colorado Honey Producers' Ass'n Denver, Colo.

Practical Queen Rearing

By FRANK C. PELLETT



PRICE $1.00

"For the Best Success get pure stock, keep tab on every pound of honey taken from each colony, then breed from the best storers that are all right in color and temper."

C. C. Miller.

This book contains many plans for home queen rearing from one's own stock, as well as in commercial queen rearing.

Cloth bound, 105 pages, Illustrated

AMERICAN BEE JOURNAL
HAMILTON, ILLINOIS

THE EDITOR'S ANSWERS

When stamp is enclosed, the editor will answer questions by mail. Since we have far more questions than we can print in the space available, several months sometimes elapse before answers appear.

A PECULIAR CASE

I have just gotten myself into a mess. Can you help me to straighten it out?

I bought three hives and a nucleus of a man nearby. He said the Jumbo hive had swarmed on May 20. On June 3 I opened it and found four sealed queen-cells and one opened. I finally found the queen by use of an excluder. (The hive is very strong and I could not find her otherwise.)

There was a very little unsealed brood (fairly large grubs). Saw no eggs or very young brood. Without further thought, I clipped about a third off queen's wings and put her back, thinking that the cells indicated a desire to swarm. Now I am afraid the queen was not previously mated.

1. What should I have done?

2. What can I do now to correct error, if such it turns to be, without harming the strength of the hive? Should I kill the queen and buy another?

3. I want to get these fellows into a ten-frame hive. How can I do it without destroying the large combs? Would it be well to put a ten-frame hive in its place and put a new queen in it and starters of foundation to compel storage in the comb super?

4. How should I handle a two-frame nucleus with an old queen, for best results?

NEW YORK.

Answers.—1. It would be astonishing if the queen was not already fertilized, after fourteen days following swarming. But it is no less astonishing that there should have been some brood still unsealed, as it requires only eleven or twelve days for all the brood to be sealed after the swarm goes.

Either the queen is unfertilized and she will probably perish in trying to fly out to mate, or she is fertile.

In the first place, you will have to give the colony a new queen. If this one does not get lost in her trying to mate, she will soon lay eggs that will hatch into drones.

In the second case, all is well.

If you have to replace the queen, do not kill her until you receive the one that will replace her, for in the meantime some laying workers might try to take her place. As long as they have a queen there is little danger of laying workers.

The proper thing to have done was to leave the queen alone till she began to lay.

2. No matter what you do, the colony will become weaker, by loss of time, unless that queen has begun laying.

3. Why transfer those large combs into shallower ones? The large combs are certainly best. But if you wish to transfer them, better wait till spring, apple blossom time, and just cut them down, frame and all, to the proper size. You may do also as you suggest—put another hive under this one and drive the bees into it, then use a queen excluder between the two. Be sure the queen is below before you do that.

4. You may either add combs of brood to the nucleus, one at a time, until it is a full colony, or unite it with some other colony that is queenless.

CARNIOLANS AND CAUCASIANS

I have interviewed authority on bees and read articles on the Carniolan and the Caucasian bees, but find that there are different opinions on the merits of these two races of bees. I am asking you for information on the Carniolans and the Caucasians so that I may know the truth about them. Would you please furnish me with all the information you can on both races?

Some of the things that I would like to know are as follows:

1. Do they swarm excessively? 2. Would a colony started with a two-frame nucleus about the 15th of May swarm during the same year? 3. Are they good honey producers? 4. What kind of combs do they build? 5. Are they a gentle bee and easy to work with? 6. What is the color of bees and queen? 7. Do they propolize a great deal? 8. Do they winter well? 9. How does the honey they produce compare with the honey the Italians produce? 10. Do they rob? 11. Are they immune to diseases, etc.?

OHIO.

Answers.—1. The Carniolan bees swarm more than any other race. The Caucasians swarm about the same as the average.

2. I cannot say whether a colony started on the 15th of May, of either race, would swarm the same year, as that depends upon the locality and the amount of bloom, also on the prolificness of the queen, but it is not likely that a colony of either race would swarm under those conditions.

3. Both races are good honey producers.

4. I cannot say that they build combs different from those of any other race.

5. Both races are gentle.

6. The color of their bees is a grayish dark, when the bees are young and downy, changing to darker when they grow old and lose their hairs; but they are hardly as dark as what we call black bees.

7. They perhaps propolize more than bees of northern countries, but I am inclined to believe that bees propolize more in localities where a great deal of gum is produced on trees, especially if they have a dearth of honey in early fall.

8. As their winter is similar to that of our northern states, they winter about as well as our bees.

9. There is no difference between the honey from one race and that of another, if they have the same blossoms to gather it from.

10. They will rob if induced to do so, but are no worse than our blacks or Italians.

11. No bees are immune to diseases, although perhaps some races recover earlier than others. I could not say as to that.

On the whole, the only objection I have to either of those two races is that they resemble our common bees so nearly that it is difficult, if not impossible, to recognize a mismating, while a mismating is easily recognized with the Italian bees and they have about as many good qualities as those two races.

MOVING BEES

How would you prepare hives of bees to be shipped 500 miles in a box car along with some stock, household goods, etc., "stock and emigrant movables," say about last of September to first of October, from near Omaha, Neb., to near Denver, Colo.?

NEBRASKA.

Answer.—I would prepare the colonies by first removing all the surplus honey that they would not be likely to need for winter. Then I would nail up the hive bottom tight and also close the entrance tightly. The cap or cover would be shipped separately and the top of the brood chamber would be covered at least about half with wire screen, such as is used for fly screen, an inch cleat

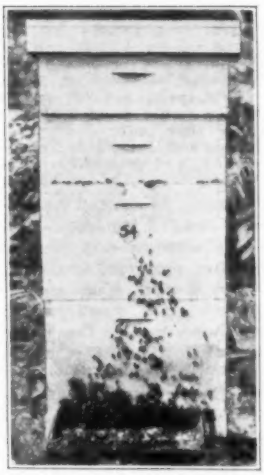
(Continued on page 376)

Capacity 40% Greater than the 10-frame hive

More Honey at Less Cost

with the

Modified Dadant Hive



Apiary of 50 colonies, like the above, produced 250 pounds of honey per colony in 1925, at Hamilton, Ill. Ten-frame hive average for year, 150 pounds.

B. F. Kindig, formerly State Apiary Inspector of Michigan, writes:

"The future of the honey business depends upon the profit that beekeepers will make. As beekeepers, you and I have a great deal to do with the cost of production in our yards. . . .

. . . "An Iowa beekeeper writes me: 'After several years' experience with the Modified Dadant hive, I find that it has produced all of 100 per cent more honey with 50 per cent less work than any other hive we have used. I have never lost a colony in the Modified Dadant, and they are so strong that every season is a good honey season.'

"A beekeeper from Missouri writes: 'I have bees in eight-frame, ten-frame and Dadant hives and consider the latter far the better. The Dadant hives yield from 50 to 100 pounds more honey per colony than the others. They are more economical to run and it is not necessary to go through them so often."

(See American Bee Journal, March, 1925, Page 113)

Modified Dadant hives are sold by all dealers in Lewis Beeware and Dadant's Foundation

Honey Wanted

EXTRACTED

Carload or less quantities, send samples and advise quantity you have and price.

COMB

Carload or crate lots. Must be sections sizes 4¼x4¼x1⅞. Mention grade and quantity.

We also need Buckwheat Extracted, 160 pound kegs preferred

Hoffman & Hauck, Inc.

Ozone Park, New York

Thrifty Queens

50c each

IN LOTS OF TEN OR MORE

Smaller Lots 60c ea.

We can make prompt shipments

Safe arrival is guaranteed in the U. S. and Canada. Pure mating and satisfaction the world over.

Thirty-three years of careful breeding insures you of THRIFTY three-banded Italian queens. An output of thousands of queens per month assures you of good delivery.

Wire us your rush orders.

W. J. FOREHAND & SONS

Ft. Deposit, Alabama

Remember THRIFTY bees are guaranteed to please

For Practical Beekeepers—Lewis 4-Way Bee Escape

ONLY **16c**

Empty your full supers easily and quickly!

IT'S no longer necessary to shake bees in the hot sun or be stung up taking off supers at night. The famous "4-Way" Bee Escape solves the problem. Fully guaranteed. Full instructions, with Golden Beeware catalog of latest improved quality supplies, sent postpaid to anyone in North America. Write today.

G. B. LEWIS COMPANY

An outstanding force for better Beekeeping since 1874

WATERTOWN, WISCONSIN

Branch Warehouses of the G. B. Lewis Company in charge of our own managers at your service: Albany, N. Y.; Lynchburg, Va.; Texarkana, Arkansas-Texas; Sioux City, Iowa. Write for name of dealer nearest you. Over 500 in U. S. A.

LEWIS BEEWARE

Shave Quickly

with a super-keen blade. A dull blade means a slow shave. Learn what stropping does. Buy a Valet AutoStrop Razor. It gives a comfort, speedy shave every time. $1 up to $25.

Valet AutoStrop Razor

—Sharpens Itself

BEEWARE
EXTRACTORS

American Cans and Pails, Glass Honey Jars, Wired Foundation
Catalog for the asking

If you wish prompt service, write

B. F. SMITH, Jr., Fromberg, Montana

(Continued from page 374)

being nailed all around and across the center to protect the screen.

The hives then could be piled across the car, the combs running lengthwise of the track, as the greatest jars occur when the train starts or stops. It would be necessary to make sure that they all had air. At that time of the year there is very little brood, so they would not be in need of any water on the way.

On arrival, I would unload them as quickly as possible, open the entrances and put on the covers. The wire screens could be removed later.

It might be necessary to fasten the frames in place, if the hives were new, but usually, at that season of the year, enough propolis has been gathered by the bees to fasten the combs in place.

GIVING BROOD—VENTILATION

1. I have twenty-seven colonies of bees and do not care to have many more; some are weak and others are very strong. I intended to take some bees and brood of these strong colonies and give them to the weak, but an experienced beekeeper told me they would sting them to death. Is it true?

2. These strong colonies have two and three full depth supers and are all full of bees. They seem to be still crowded and gather in bunches at entrance; the entrance is open over an inch high. Do you advise to give them a little air at top, and how much? Would three-sixteenths of an inch be too much? Would this be dangerous as to getting moths in the hive, and would this opening have to be closed on a cold, rainy day?

3. When I had my bees inspected, the inspector found an unfertile queen; the colony was very strong, but I did not understand how he could tell this. Where could I get some information on this?

WISCONSIN.

Answers.—1. You can give brood from strong colonies to weak ones and the brood will be accepted, but you should not do so before the crop is on, when the bees that will hatch from this brood will be too late for helping to make surplus. Bear in mind that it takes thirty-five days, or thereabout, to make a field worker from a fresh laid egg. So when the crop is on, unless it is likely to last many weeks, the brood is only suitable to strengthen weak colonies. Until that time, it is best to keep your strong colonies as powerful as possible, for it is on those that you must rely for the surplus honey.

2. We sometimes give upper ventilation to very powerful colonies. That is good when the weather is very hot. But we need to watch those colonies closely, as an opening at the top will discourage them from putting honey near that opening. In this you must exercise your own judgment and see how the bees behave. Just as soon as the crop is over, those upper openings must be closed, or you will have trouble with robbers. An opening of three-sixteenths is all right. If it is too small they will fill it with propolis. Moths are not much to be feared unless you neglect to watch your colonies and to reduce the opening when the crop is over, or when they swarm.

3. The only way in which beekeepers find that a queen is unfertile is when there is no brood. Usually it is a young queen and she soon goes to laying. If she is an old queen, she should be replaced. You had better buy a text book and read it.

PERSISTENT SWARMING

May 18 I had a swarm from my No. 10. Queen's wing was clipped and I secured her and accidentally killed her and bees returned to hive. May 26 bees swarmed again, stayed in the air a while and returned to hive. June 1 they swarmed again and returned to hive. The last time I looked into the hive there was one queen-cell empty and another queen about ready to come out, and several more cells. The hive is an extra strong one and has already filled one super and started well on another. They stand in what I call a perfect place, with shade during the heat of the day; body raised about one inch from bottom and supers slipped about one-half inch forward. It is true I have ten frames in both body and supers, but I cannot account for the swarming and returning each time. Is there a reason, or is it just some freak hive? I would thank you for early answer as to what you would do in such a case. I forgot to say that both of the last times they have swarmed I have looked carefully on the ground and everywhere else, but could find no queen. KENTUCKY.

Answer.—When you killed the queen, the colony had some queen-cells.. So they swarmed again with the first queen hatched, eight days after the going out of the first swarm. That is just what could be expected. Probably the queen was fertilized that day and went back to the hive and the bees followed her.

As to their return to the hive on June 1, I can only surmise. Several things are possible, but the most likely one is that the young queen was killed or lost. There are so many possible causes of a swarm returning that it is hard to say just what may have happened.

REMOVING CLOTH COVERS

Will you please tell me whether it is better to discard a covering of cloth over the brood frames at this time of the year, or would you keep them there until you put on the super?

I've been keeping them on, and after I put on a super I put them on the super frames. Is this wrong?

I have had no chance to visit a real beekeeper, because there are few beekeepers here. A man came along today and advised me to take the cloths off. He said they needed ventilation, but he also said that bees did not need to be packed up here for winter. My bees are not doing very good now, but when I took the packing away from them, about the first of April, they seemed to be very strong.

ARKANSAS.

Answer.—We always leave the cloth over the frames, winter and summer, unless we use a mat over the combs for winter, which is still better, as it lets the moisture escape. But there is no need of taking off the cloth to give them ventilation. The proper way to give them ventilation is to open the entrance wide and, if necessary, lift the hive up from its bottom in front an inch or more, so that the bees can send air up into the hive. We never let them hang out on account of heat, but keep adding space for ventilation as they may need it.

If you were to remove the cloth from above the frames, the bees might build upwards into the super or the upper box, whatever it is, if combs or frames were not given them in the super at the same time. Your way is all right.

FRENCH BEE PAPERS

I noticed in the May issue of your paper, page 262, the names and addresses of bee journals published in France. I would like to know the subscription price of L'Apiculteur, 28 Rue Serpente, Paris, France. Would they accept a United States postal money order? If not, what would be the best way to send subscription price?

NEW JERSEY.

Answer.—The subscription to any of the French bee magazines may be paid by sending them a draft on New York for a dollar, at least as long as the franc is at as great a discount as at present. As it fluctuates, it would be impossible to give a positive present value in francs.

Moving Bees To Pasture

By L. H. Cobb

Even yet moving bees is not a job to covet, but in the old days when I moved bees to pasture it had a decidedly dangerous element which the truck has now removed. When one loads several hives of bees behind a strong team, one has a pretty good idea of how it would feel to sit on the lid of a rumbling volcano. The man who helped me said he had not felt so nervous since he hauled dynamite over the rough hill roads in the Osage oil country. But there are times when the returns from a temporary location are very promising, and, as there is no longer any danger, it should prove well worth utilizing.

This pasture we coveted was a low, level wheat field that was drowned out about every other season. Wet falls it was a solid sheet of heartsease. We extracted the early crop, taking the outside frames from the brood chambers, and sometimes those next to them, and replacing after extracting. We then loaded them up and took them out to the shade of a row of mulberry trees at the base of a hillside overlooking this field, which included the main part of a 160-acre farm. I have had some good yields from white and sweet clover and sometimes the gathering was rapid, but the bees brought in double the amount per day from that field than from any other in my experience. The honey was rather dark, strongly scented and strongly flavored, and granulated quickly, with a coarse grain, but it was good honey nevertheless and sold readily.

There are many bottom land wheat fields that grow up to heartsease (smartweed) that in falls, when only ordinarily moist, will yield much nectar. I have never tested it in dry years, but it is claimed that heartsease does not yield then even when a sheet of bloom. I know it yields in wet years. I have had bees visit the plants on high ground freely, but they never seemed to gain much, yet they reared brood later, I think.

Along the edges of timber or in clearings, the Spanish needle is often found in great patches. Where such a field is large enough or there are sufficient patches in the bee range, it is well to take advantage of it, for it makes fine honey. Kansas.

The Sunday Telegram

of Worcester, Massachusetts, for April 24, contains a well illustrated interesting article upon bees, by W. Earl Paddock, of the Department of Agriculture. It is rare to see so interesting an article on bees and beekeeping in a daily paper.

TENNESSEE-BRED QUEENS

Sixty-seven Years with Bees and Fifty-five Years a Queen Breeder. Breed Three-Band Italians Only

	Nov. 1 to June 1			June 1 to July 1			July 1 to Nov. 1		
	1	6	12	1	6	12	1	6	12
Untested	$2 00	$ 8 50	$15 00	$1 50	$ 7 50	$13 50	$1 25	$ 6 50	$11 50
Select Untested	2 25	9 50	18 00	1 75	9 00	15 00	1 50	7 50	13 50
Tested	3 00	16 50	30 00	2 50	12 00	22 00	2 00	10 50	18 50
Select Tested	3 50	19 50	35 00	3 00	16 50	30 00	2 75	15 00	21 00

Select tested, for breeding, $7.50

The very best queen, tested for breeding, $15.00

JOHN M. DAVIS, Spring Hill, Tenn.

SAVE MONEY—

Minnesota and Wisconsin Beekeepers

—SAVE TIME

Save money by ordering Lewis and Dadant goods at factory prices from Winona, Graceville, or Brainerd, Minnesota

Save time in short hauls. We like rush orders, as we buy in car lots and ship same day order is received

Dadant's Wired Foundation and Lewis Slotted Bottom bar Frames on hand at all times

Standard Lumber Company

Winona — Graceville Brainerd, Minnesota

Dittmer's Foundation

We make a specialty of working your wax for cash, and NOW is the time for you to place your order, and get early order discount. WE USE ABSOLUTELY NOTHING BUT PURE BEESWAX

Write us for samples and prices

We furnish a full line of supplies

GUS DITTMER COMPANY, Augusta, Wisconsin

THE ENGRAVINGS APPEARING IN THIS PUBLICATION ARE MADE BY THE

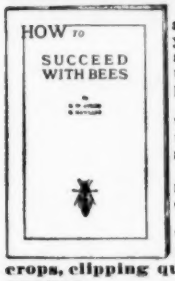
Waterloo Engraving & Service Company

Waterloo, Iowa

Makers of Metal Engravings and Electrotypes
Designs Furnished for Letterheads, Labels, Etc
We do no printing
WRITE IF YOU NEED DESIGNS

For Practical Beekeepers

HOW TO SUCCEED WITH BEES



Late summer management and next year's honey crop. How and when to requeen, unite and plan fall protection.

How to successfully winter bees. Protection, packing, final inspection.

How to prevent wax moth from destroying combs.

Control of swarming. The causes, control, how it means bigger crops, clipping queens, controlling after swarms.

FRANK RAUCHFUSS, DENVER, COLO., SAYS: "THERE IS SO MUCH GOOD IN IT THAT EVEN EXPERIENCED BEEKEEPERS CAN PROFIT BY IT. MUST SAY I HAVE ENJOYED READING IT."

59c Postpaid

Nine chapters—96 pages—9 pages of illustrations—63 separate pictures—200 specific questions answered.

More than 4,000 sold

E. W. Atkins and K. Hawkins, Authors

G. B. LEWIS COMPANY

WATERTOWN, WISCONSIN, U.S.A.

Leading maker of bee supplies since 1874

CARNIOLANS

are very gentle, very prolific at all times, build very white combs, are little inclined to rob, rarely affected with European foulbrood, and are most excellent workers. They breed rapidly during the spring months,—**a decided advantage in our northern states.**

We have successfully shipped full colonies of Carniolan bees to the Department of Agriculture and Forestry, Tokyo, Japan, for breeding purposes. This feat of successfully shipping bees over 10,000 miles across the United States and the Pacific Ocean has never been accomplished before, as far as known, by any breeder of bees, and certainly speaks well for the wonderful vitality of the Carniolan bee. Ask for free paper, "Merits of the Carniolan Bee."

Twenty years experience with Carniolans. We have breeders imported from Jan Strgar, the most extensive queen breeder in Carniola, and M. Ambrozic, an extensive honey producer in Carniola.

Untested queens, each	$1.10
Untested queens, six or more, each	1.00
Tested queens, each	2.00
Line bred breeding queen (reared '26)	10.00

ALBERT G. HANN

Glen Gardner, New Jersey

PORTER

BEE ESCAPE SAVES HONEY TIME MONEY

For sale by all dealers.
If no dealer, write factory.

R. & E. C. PORTER, Mfrs.

Lewistown, Ill., U. S. A.

(Mention Am. Bee Journal when writing)

Comparative Virulence of the Two Foulbroods

By Allen Latham

IF ten persons were to be asked, "If foulbrood were to become present in your apiary, which would you choose to have, American or European foulbrood?", nine at least would say European. Possibly twenty years ago the ratio would be the other way, though of that I am doubtful. I find among most beekeepers a greater dread of American than of European foulbrood.

The choice is reasonable, now that we have strains of bees which can keep fairly free from the European variety, whereas at present no strain seems to be resistent to the American variety. Had I known twenty years ago what I know of the two diseases, but with no knowledge as to the present cure for European foulbrood, I should choose the American disease if I were obliged to have one of the two get into my apiary.

I am rather inclined now to think of these two diseases as I would think of chickenpox and smallpox, were I to compare their virulence. Now do not jump at too quick a conclusion. I would say that American foulbrood compared with European foulbrood is to the honeybee what chickenpox compared to smallpox is to the human race. Chickenpox is mild and rarely fatal, and in like manner **American foulbrood is mild and slowly fatal.** Smallpox is severe and often quickly fatal. **European foulbrood is severe and usually quickly fatal.**

These two statements are rather rash, and I am well aware that they are not absolutely true, since there are frequent exceptions. Their truth is only general. It is strictly and absolutely true that to the individual bee European foulbrood is always quickly fatal, and also true that to the individual bee American foulbrood is always slowly fatal.

It is most remarkable how quickly bacillus pluton will kill the larva of the bee. Death is almost always a matter of two or three days from the hatching of the egg. Rarely does a larva reach the age of five days before death comes to it. On the other hand, bacillus larvæ does not kill quickly, and the larva rarely dies as a larva. It dies in the prepupal stage, when, even if it can be called a larva, it does no feeding. Many reach the pupal stage before death comes, and not a few reach the age of nineteen or twenty days from the egg. If that last statement is untrue, I cannot otherwise account for numerous dead bees in colonies sick with American foulbrood, bees nearly mature enough to leave the cell, but dead.

Naturally it occurs at once to most of us, possibly some bees do emerge as adults even though sick with bacillus larvæ. Who knows? What is the reason for the quick death from one bacillus and the slow death from the other? Is it a matter of bigger dose of one disease than of the other? Or is it a matter of more rapid multiplication of bacteria in the case of bacillus pluton? Do some bees die more quickly from bacillus larvæ than do others because they got a bigger dose, or do their bodies cause more rapid division of the bacilli than do the others? These are all questions beyond me and beyond any but a trained bacteriologist skillful in the use of a high-power microscope.

It is possible, however, for me to theorize and to draw deductions from what I can see without a microscope. It is my belief that not only does bacillus pluton multiply more rapidly than bacillus larvæ, but the sick bees actually get a larger dose of the pluton than they do of the other bacillus. In the vast majority of cases colonies have a comparatively small number of bacilli larvæ, and these are fed out to varying number of larvæ, and the supply is possibly at once exhausted. The sick larvæ are fed no more of the poison, they must grow the bacilli in their own bodies to get more. Hence it is that the age at which each larva dies is in true proportion to the dose it was given in the first place. Some, getting a generous number of bacillus larvæ, die before they pupate; others, getting a small dose, may pupate and reach full bodily development—possibly emerge from the cell to die as an adult bee. With bacillus pluton it is very different. Even if a larva gets a small dose at first, it may get more soon. Instead of having a limited number of bacilli, as was the case with the American foulbrood, the colony goes into very active manufacture of unlimited millions of bacilli pluton. As the nurse bees are prone to eat the early dying larvæ sick from bacillus pluton, and to feed this economically saved pap to other larvæ, the multiplication of the bacilli of this disease becomes enormous.

A colony sick with American foulbrood may have a very few cells at first and for weeks no more may be seen. Frequently the number of diseased cells will not run over 200 or so for weeks. If the supply of bacilli larvæ brought in is very generous this would not, of course, be true, and some colonies may have thousands of diseased cells within a

few days. The attack of the disease is always in direct proportion to the quantity of disease brought into the colony from without. Far otherwise with European foulbrood. A very few bacilli pluton may be brought in or arrive, whatever their mode of ingress may be. Five or six larvæ may get the dose and die. They in their death will supply doses for hundreds more, and as two or three days at most bring death the hundreds dying will furnish doses for thousands.

I trust I have made it clear why I compare European foulbrood to smallpox and American foulbrood to chickenpox. Now do not be too critical. I know that chickenpox is rarely fatal and that American foulbrood is usually fatal. I compare them because of the virulence one shows and the lack of virulence displayed by the other.

All who have had experience know how easy it is to cure American foulbrood by shaking upon full sheets of foundation in a clean hive. Also they know how frequently the shaking of colonies sick with European foulbrood fails of its purpose. We get all sorts of warnings in regard to American foulbrood and very little warning in respect to European. Yet with bees that are not immune a beekeeper would have five times the trouble to clean his apiary of European foulbrood that he would to clean it of American foulbrood. One is as elusive as a drop of quicksilver, the other is a veritable sluggard. Had I no neighboring beekeepers, or put it this way, had I my bees isolated on an island and had to have one of the diseases, then I would choose American foulbrood. Being, as I am, only one of about forty beekeepers within a radius of ten miles, I naturally would choose European. Why? You know.

(I believe that Dr. Sturtevant's conclusions, in his bulletin, "Development of American Foulbrood in Relation to the Metabolism of Its Causative Organism," answers the question asked by Mr. Latham: "What is the reason for the quick death from one bacillus and the slow death from the other?" The reply of Dr. Sturtevant is: "The concentration of reducing sugar in the larval intestine is more than sufficient to inhibit the growth of Bacillus larvæ until after feeding has ceased." In other words, Bacillus larvæ cannot prosper on as sweet a larva as Bacillus pluton. Therefore, Bacillus larvæ does not develop until the larva is well advanced and the quantity of sweet in its body has decreased. So Bacillus pluton develops in very young larvæ and kills them, while Bacillus larvæ cannot develop in a larva until it is almost grown. Let us bear this in mind, for it is another way to discover the difference between the two cases.

Evidently, difference in location causes difference in experience. We have seen but little of European foulbrood and it has always disappeared readily here, while the other disease has reappeared time and again when we thought it entirely cured.—Editor.)

Meetings and Events

Omaha-Council Bluffs Meeting July 12-13

Since the last notice was sent out, Mr. J. I. Hambleton has made arrangements to be present and take part in the program. This will be an opportunity for beekeepers of the west central states to meet the man who is in charge of the Bee Culture Laboratory at Washington, D. C. Don't forget the dates and places—July 12, at Hotel Rome, Omaha, and July 13, at Hotel Chieftain, Council Bluffs.

Fracker to Washington

Dr. S. B. Fracker has resigned his position as State Entomologist of Wisconsin to take a position in the Federal Horticultural Board at Washington. In his new position Dr. Fracker will be connected with the plant quarantine work. The good wishes of a wide circle of friends among the beekeepers attend him in his new home and position.

Mr. C. D. Adams, chief apiary inspector, will remain in charge of that work in Wisconsin, so that little change is likely to be noticed in the conduct of the bee disease eradication work.

Beekeepers Meet at Cando, N. D., July 8

The city of Cando, in Towner county, N. D., will be host to several hundred beekeepers from all parts of the state on July 8, according to J. A. Munro, secretary of the North Dakota State Beekeepers' Association, North Dakota Agricultural College.

The program for the meeting will include an address of welcome by F. J. Roberts, mayor of Cando; a talk by Dr. James I. Hambleton, chief of the Bee Culture Laboratory, Washington, D. C., on the United States grading rules for honey; an address by Professor Francis Jager, head of the beekeeping division, University Farm, Minn., on marketing of honey. He will also speak on his trip to the southern states and comment on the damage to bees caused by recent floods.

Dr. M. C. Tanquary, commercial beekeeper, Fargo, will address the meeting on the various problems connected with the handling of package bees. Professor J. W. Thompson, University of Minnesota, will speak on problems in beekeeping which are being investigated by the Minnesota Experiment Station. Charles Hausmann, commercial beekeeper of Hillsboro, will address the meeting on summer management of bees for honey production. Hon. Joseph A. Kitchen, commissioner of agriculture, Bismarck, will attend the session and will give an address relating to the beekeeping industry of North Dakota. Professor C. B. Waldron, horticulturist, North Dakota Agricultural College, will attend the meeting and will speak on shelter belt trees and tree planting. Professor J. A. Munro will talk on queen-rearing and selection of queens.

The beekeepers will be guests at a luncheon provided by the Cando Commerce Association, the Welfare Club and Towner county beekeepers cooperating. J. W. Lawton, county agent, is in charge of local arrangements.

New York Summer Meeting

The annual picnic of the Empire State Federation of Beekeepers' Cooperative Associations, Inc., will be held at the home of J. B. Merwin, Prattsville, N. Y., on August (fifth) 5th, 1927. All beekeepers and their friends are invited to attend. Mr. Merwin's place is located on state highway route No. 23. This can be reached from the west at Oneonta and from the east at Catskill. Accommodations can be secured for all that wish to stay all night, in which event beekeepers are asked to drop Mr. Merwin a card in advance. There is plenty of room for those who wish to camp.

An interesting program is being arranged, including Professor Bristow Adams and Dr. Phillips, of Cornell, and President Dye of the State Federation. Professor Adams is going to give us a plan for state-wide honey publicity and advertising to work in connection with the efforts of the National Honey Producers' League. Games, contests and a real good time for all.

F. M. Babcock, Sec'y.

Interstate Meeting at Hamilton

Professor H. F. Wilson writes us that the plans for the program for the interstate meeting to be held at

Hamilton, Illinois, on August 9, 10 and 11 are not yet entirely completed. Dr. Lloyd R. Watson will demonstrate his method of controlled mating of queen bees.

Representative speakers from each of the states, Iowa, Missouri, Minnesota and Wisconsin, which join with Illinois for this meeting, will appear on the program. It is expected that most of the talks will be short, in order to give time for as many as possible and also to leave room for other features. Visitors who wish to visit the big dam and power house will have an opportunity to do so, as there is a guide who conducts parties through the big plant, starting on the hour from nine, until four o'clock each day. About half an hour is required for the inside trip. No guides are necessary to visit the dry dock, government locks, etc.

It is expected that many of the prominent beekeepers of the United States will be present. Those living in the Middle-West will find this a favorable opportunity to meet men who are prominent in state and government service, as well as those who are well known as producers of honey.

June Wedding

Notice comes from North Dakota that J. A. Munro, the genial state entomologist of the State Agricultural College at Fargo, was married on June 16 to Miss Hope Beatty, also of Fargo.

We know that we can extend the best wishes of the whole beekeeping fraternity to these two young people.

They expect to visit at Mr. Munro's old home in the Slate River Valley in Ontario on their wedding trip, after which they will be at home to friends at Fargo.

An Appeal For Assistance

In response to a widespread desire on the part of the beekeepers of the United States to assist their fellow beekeepers in the flooded district of Louisiana who have suffered from the disastrous flood of the Mississippi River, and in order that authoritative information might be supplied and suggestions for the relief of these people might be offered, the Louisiana Department of Agriculture and Immigration, more especially the Division of Entomology, under the direction of Mr. W. E. Anderson, who is in charge of the apiary inspection work of the state, has taken upon itself the task of supplying authentic facts and suggestions for the relief of the beekeepers in the flooded area.

The beekeeping industry of Louisiana has for the most part, of necessity, been located in our lowlands commonly spoken of as swamp lands, although these lands are under water only occasionally when a river levee gives away. This year, however, the level of the floodwaters has surpassed anything ever known heretofore, and to all practical purposes it can be said that every beehive in this flooded district has been lost. In addition, these people have sustained losses of their other properties to such extent that it will be only with the greatest difficulty that they will be able to earn sufficient to keep body and soul together. Not only have they suffered losses of their crops, often all of their livestock, not to mention their beehives and less valuable movables about their farms, but in many cases their homes; while in all cases their fences, barns, bridges, automobiles, and in fact everything that could not be loaded into small lifeboats has been taken away from them. In many cases these stricken people escaped from their homes in their night clothes, leaving all of their cherished possessions to be destroyed. In order to draw a truthful picture of the pitiful state of these people and of the utter desolation which reigns in their hearts, the services of a very gifted writer would be necessary.

Nine-tenths of the commercial beekeeping of Louisiana was done in this flooded territory, and it is entirely within all bounds of reason to say that unless some radical steps can be taken to get these people started back into beekeeping, the commercial side of the industry, at least, will have disappeared from this territory.

Mr. W. E. Anderson, the State Entomologist and Chief Apiary Inspector, has been requested to assume the task of purchasing supplies and distributing them in the stricken area in proportion to the number of colonies registered in his office last fall. In behalf of the stricken beekeepers, he is asking for contributions in money or materials or in bees and queens to be shipped upon request. Under his plan not one cent of money donated to rehabilitate the flood sufferers will be spent for executive expenses, and he is very much in hopes that all materials and all bees will be transported free of charge by the American Railway Express. Arrangements have been made with foundation manufacturers to render old combs and cappings into wax and manufacture this wax into foundation free of cost, and to those who are unable to contribute in money a special request is made that they should give us as much of their old combs as they can afford. Upon request, Mr. Anderson will furnish shipping instructions.

In conclusion, it can be said that in the flooded area of Louisiana commercial beekeeping is a thing of the past, and in behalf of these beekeepers we appeal to the beekeeping fraternities throughout the United States for contributions with which to purchase new beekeeping equipment for beekeepers who are now dependent on public charity for the very bread they eat and the clothes they wear. Contributions of even the smallest sums will be gladly accepted.

Henry A. Stabe, Secretary,
Louisiana State Beekeepers' Association.

Dr. Lewis Cass Spencer,
Member Executive Com.

W. E. Anderson,
State Entomologist and
Chief Apiary Inspector.
Baton Rouge, La.

No time to rescue railroad cars—just barely time to save human lives

Des Glaises levee in the foreground

In the sweep of the flood at Moreauville

What Happened In the Louisiana Flood

By M. G. Dadant

THE papers have been full of reports of the horrors of the flood on the lower Mississippi, but perhaps our readers would be interested in some of the details of the damage done to bees and beekeepers in that great flooded section.

Unfortunately, this office has gotten information chiefly from the Louisiana flood area, perhaps because it just happened in that area that a great proportion of the commercial producers of Louisiana were located, and possibly because the writer had just visited that section last winter and become personally acquainted with a large number of the beekeepers affected.

Those who have read my article on Louisiana will recall that the premier beekeeping area of Louisiana lies just below the confluence of the Mississippi and Red Rivers, at the north end of what is generally known as the sugar bowl of that state.

Naturally it was at this very point that the first pressure of waters came, since it meant a piling up of waters when the great swollen Red River met the still greater and more abnormally expanded Mississippi. The forces of men and materials here (along the levee of Bayou Des Glaises) fought the forces of nature, since a break in the walls of that man-made barricade would mean not only the inundation of the area immediately behind, but of the entire low lying area clear to the Gulf.

Imagine, if you can, the whole man force frantically working to stem the tide and the whole balance of the population feverishly waiting for a victorious conclusion to the battle.

Then imagine yourself thrown into such a situation, with a quick break in the levee, a wider crevasse, and finally inside of a few minutes relatively smaller breaks elsewhere, releasing the whole vortex of the flood on the unprotected homesteads. No time to gather keepsakes, many times not even clothing, and no place to store them on the refuge boats if they were rescued.

C. A. Mayeux house after the water dropped five feet. The house was moved from its original location.

By the accompanying illustrations, one may get an idea of the extent of inundation and of the utter impossibility of ever finding trace of beehives, untensils, outbuildings, and even of whole homes, after the flood once struck.

Added to these disasters has been the fact that the rivers have remained at flood stage for over a month, so that a large part of the region is still under water and unable to salvage even the semblance of the former household, which by this time, if left remaining, must be covered with mud and refuse to a depth which will make it utterly useless.

Some of the larger beekeepers who were located directly in the path of the greatest current, and who consequently lost all of their bees in addition to their other losses, are:

J. L. St. Romain.
C. A. Mayeux.
O. Mayeux.
D. A. Coincon.
F. M. Morgan.
Jes Dalton.
L. J. Bond.

Others who suffered loss of parts of their apiary system, but whose homes were not inundated, are:

John St. Romain.
J. L. Gaspard.
H. H. Bordelon.

There are, in addition, dozens of others who were not in the direct path of the heaviest current, but who, nevertheless, lost all of their bees by the flood and will probably only be able to pick up a nucleus of their former number of hives.

Naturally such a situation has at first the earmarks of a panic, but we believe in the population of that district sufficiently, and especially of its beekeepers, to think that they will rebuild on their losses stronger and sturdier than before.

May we not be of some help to them in speeding the day when they can at least look with composure at a situation which they cannot forget—In other words, do ourselves the favor of practicing the golden rule?

HONEY CONTAINERS

Pails and Cans of heavy tin plate

Honey Jars of ideal proportions

VALUE

Comb Honey display cases at a saving

Prompt shipment. 97% of orders are shipped the same day they are received

WRITE FOR OUR NEW PRICE LIST

The greatest money-saving prices ever offered on containers of quality.

Root QUALITY BEE SUPPLIES

THE A. I. ROOT COMPANY OF IOWA

COUNCIL BLUFFS, IOWA

Root QUALITY BEE SUPPLIES

Honey Containers

5-lb. friction-top pails, per case of 12	$1.10
5-lb. friction-top pails, per carton of 50	3.50
10-lb. friction-top pails, per case of 6	.90
10-lb. friction-top pails, per carton of 50	5.00
2½-lb. friction-top cans, per carton of 100	4.00
60-lb. square cans, per case of 2 cans	1.20
60-lb. square cans, per case of 1 can	.75
60-lb. square cans, in bulk, each	.40
24-oz. round glass jars, per case of 24	1.60
16-oz. round glass jars, per case of 24	1.25
6½-oz. tin-top tumblers, per case of 48	1.50

All above prices are f. o. b. Boyd, Wis.

Prompt shipment guaranteed

Write for our catalog and prices on our comb honey shipping cases

August Lotz Company

Boyd, Wisconsin

Quality Bred Italian Queens

Prices smashed for remainder of season. Several thousand queens, and if you are looking for a bargain in high grade queens we can supply your wants promptly. Yes, we guarantee them to please or your money back. Ask for queen circular.

When in need of package bees or nuclei, we will be pleased to quote you lowest prices F. O. B. your station. Good, even color Italians, honest weights and the best delivery.

York Bee Company, Jesup, Georgia

H. F. YORK, Owner

Crop and Market Report

Compiled by M. G. Dadant

In asking our reporters to write us for the July issue of the American Bee Journal, we asked them to answer the following questions:

1. How is the crop compared to last year?
2. What are the prospects for the balance of the year?
3. Any old honey left, and how much?

In addition, we sent questionnaires as to honey prices in different sized packages, a resume of which appears on another page in table form.

CROP COMPARED TO LAST YEAR

The cold, rainy, backward weather has extended practically all over the United States, except in some sections where the cold has not been accompanied by rain and drought exists instead.

In the New England states it appears yet too early to report on the honey crop, as also in New York.

In the Atlantic states the crop has been considerably less than last year, and we might say the same thing of practically the entire Southeast, which has been very short except in a few sections. The entire South reports a short crop, as does Texas, which has very much less honey of spring crop than last year.

In New Mexico the crop has been short.

In Arizona some sections have had very much more honey than last year and others have had less.

In the Central Western states, although it could usually be possible to make a complete report of crop conditions, there has been very little honey harvested owing to the very backward, cold season. The white clover crop is now upon the central western producer, and unless the weather changes clearly for dry and warmer, the crop will be very much less than had been previously anticipated.

Some reporters are coming in now with reports of bees working very heavily and the first super partly filled. In Missouri this is especially true where prospects have been exceedingly fine and the sections are far enough south so as to avoid some of the cold weather.

In the intermountain territory it is, of course, too early to make any reports, as is it also for northern California. In southern California, however, although early prospects were exceedingly fine and a bumper crop was presumed to be coming, the weather has interfered very seriously and in some sections there is only from 25 to 50 per cent of last year's crop, while in others they hope yet to get a crop equal to last year, although nothing like had been anticipated.

On the whole, the crop so far has been a disappointment over what was expected and what could have been possible if the weather conditions had been better, because plant conditions at the beginning of the year, and moisture, were all in favor of a good crop.

PROSPECTS AHEAD

In the Southeast, prospects are very poor, but in the entire north half of the country and the central states, as well as the plains states, if the weather should turn favorable immediately at the time this is written (June 15), then there would still be a possibility of getting a very fine flow from white clover, as honey plants are in unusual condition and bees are fairly strong everywhere.

In the intermountain territory the conditions are up to usual, and, barring bad weather, prospects should be at least as favorable as last year. This also applies to the Dakotas, where there has been heavier rains than last year, and the honey crop should be much larger.

In California, especially southern California, the honeyflow has been seriously interfered with and it is problematical whether there will be a great deal of surplus honey from now on. The sage flow has been a disappointment.

HONEY ON HAND

In practically the entire southeast and east states there is scarcely any honey left on hand except what has been purchased. Texas reports considerable amber honey on hand and there are still considerable quantities in Michigan, Wisconsin, and Minnesota—perhaps 10 per cent of last year's crop. Some reporters in Iowa have from 5 to 10 per cent also left on hand, and the same is true of Nebraska, with a smaller amount in Kansas. All other states are pretty well cleaned up, except in the intermountain territory, which probably has 10 per cent of last year's crop on hand, some of which is moving to market now at fairly better prices than previously.

A number of reporters in the central states state that they are getting a better demand for honey this year at this time than for many years past. This is perhaps due to the fact that white clover appears everywhere and this brings honey to the attention of the casual observer. It also may be caused by the extremely cool weather which has been prevalent and which has called for sweets more than the hotter weather would.

In California and the Northwest there is very little honey on hand, and as a whole conditions would not make it appear that the amount carried over would be detrimental to the sale of this year's crop. It is especially true since the early honey crop has been more or less of a failure. Undoubtely the Southeast is going to have to import considerable honey if they are going to supply the demand as they should, because their crop has been a great disappointment.

We call attention to schedule of prices as suggested on a separate page. In making up this scedule there will probably be a large number of discrepancies. These are caused to some extent by the fact that the reporters, even in the same sections, are asking such widely varying prices for their honey. We find in the same state parties getting as low as 20 cents per section for honey and others getting 35 cents. The same is true in the intermountain territory, where some people are selling ten-pound cans of white extracted honey at $1.25, whereas others are getting as high as $1.90 and $2.00 for the same sized pail and same quality honey.

There are extreme discrepancies also in the discounts allowed to wholesalers. Some people allow only 5 per cent, others as much as 30 per cent. Many, of course, do not sell to jobbers at all and suggest no discount to jobbers, and others recommend a 15 per cent discount.

We have tried to sum up the different reports coming in on prices and tried to make a recommended price which would be fairly stable. We will be glad, indeed, to have suggestions from our readers on these prices, because this is a new experiment and undoubtedly many of the prices are wrongly suggested.

One thing which occurred to us in reading over the reports was that many of the reporters are waiting until

the crop is in before they will have any idea of what their price is going to be. In other words, the price fluctuates a great deal owing to the amount of honey on hand. This is, of course, true in many other lines, but we believe is practiced clear out of proportion in honey selling; that is, if a man has a big crop he may sell five-pound cans of honey for 75 cents, whereas if his crop is short he may ask $1.25. The difference is too great and should be governed more by the general market of honey, but evidently it is not.

Suggested Selling Prices Honey---1927-28

In figuring sales to retailers deduct 20 per cent from retail price below. For jobbers, deduct an additional 15 per cent. Prices suggested are for good white grade. For amber, deduct 2 cents per pound.

* In each case highest prices noted are those to be recommended. Lowest prices note report of some sales.

	New England	Atlantic Coast	South-east	Central West	Louisiana-Plains	Texas	South-west	Inter-m't'n	North-west	Cali-fornia	East Canada	West Canada
16-Ounce Jar	$ .35	$ .28	$ .25	$ .28	$ .25	$ .25	$ .20	$. 25	$ .20	$ .20	____	____
	.40	.35	.35	.35	.30	.30	.30	.30	.30	.30	____	____
2½-Pound Can	.65	.60	.55	.60	.60	.50	.50	.50	.50	.50	____	____
	.75	.70	.65	.70	.70	.65	.65	.60	.60	.60	____	____
5-Pound Pail	1.00	1.00	.85	1.00	.90	.85	.80	.85	.80	.80	.85	.75
	1.50	1.25	1.20	1.25	1.25	1.20	1.00	1.00	1.00	1.00	1.00	.90
10-Pound Pail	2.00	1.90	1.75	2.00	1.75	1.50	1.40	1.35	1.60	1.60	1.50	1.40
	2.75	2.25	2.00	2.25	2.00	2.00	1.75	1.75	2.00	2.00	2.00	1.75
60-Pound Can	.16	.16	.15	.12	.12	.10	.09	.10	.10	.10	.13	.13
	.18	.17	.17	.15	.14	.12	____	.11	.11	.12	____	____
10-60-Pound Can	.15	.13	.13	.10	.10	.10	.09	.09	.10	.10	.12	.12
	____	.14	.14	.12	.12	____	____	.10	____	____	____	____
Carlot, 2-60	____	____	____	.10	.09	.08	.07	.08	.08	.07	____	____
	____	____	____	____	.10	.10	.08	.09	.09	.08½	____	____
Barrels	____	____	.09	.10	____	____	____	____	____	____	____	____
	____	____	.10	____	____	____	____	____	____	____	____	____
2½-Pound Bulk Comb	____	____	.60	____	____	.60	____	____	____	____	____	____
	____	____	.70	____	____	.75	____	____	____	____	____	____
5-Pound-Bulk Comb	____	____	1.15	____	____	1.00	.80	____	____	____	____	____
	____	____	1.40	____	____	1.25	1.00	____	____	____	____	____
10-Pound Bulk Comb	____	____	2.25	____	____	1.80	1.50	____	____	____	____	____
	____	____	2.75	____	____	2.50	1.90	____	____	____	____	____
Comb, Single Section	.35	.30	.25	.25	.25	____	____	.30	.25	____	____	____
	.45	.40	.35	.35	.35	____	____	____	.30	____	____	____
Comb, Fancy, Case	6.00	5.75	5.50	5.50	5.00	____	____	5.00	5.00	____	____	____
	7.00	6.25	6.00	6.00	6.00	____	____	6.00	6.00	____	____	____
Comb, No. 1, Case	5.50	5.50	5.25	5.00	4.75	____	____	4.50	4.50	____	____	____
	6.00	6.00	5.75	5.50	5.50	____	____	5.00	5.00	____	____	____
Comb, Choice, Case	5.00	5.25	4.75	4.50	4.25	____	____	4.00	4.00	____	____	____
	5.50	5.75	5.25	5.00	4.50	____	____	4.50	4.50	____	____	____
Comb, Fancy, Carlot	____	____	____	____	____	____	____	4.00	4.00	____	____	____
	____	____	____	____	____	____	____	5.00	5.00	____	____	____
Comb, No. 1, Carlot	____	____	____	____	____	____	____	3.75	3.75	____	____	____
	____	____	____	____	____	____	____	4.25	4.25	____	____	____
Comb, Choice, Carlot	____	____	____	____	____	____	____	3.25	3.25	____	____	____
	____	____	____	____	____	____	____	3.75	3.75	____	____	____

THE ECONOMY OF QUALITY

Quality has been responsible for the fact that Puett's Queens are demanded by beekeepers of note. The larger beekeeper demands the economy of quality—to the smaller beekeeper it is essential

Satisfaction a certainty when you deal with

J. G. PUETT & SONS **MOULTRIE, GEORGIA**

Dealer in Lewis Beeware and Dadant's Foundation Note: We ship 3 pound package bees and nuclei any time of the year.

CLASSIFIED DEPARTMENT

Advertisements in this department will be inserted for 5 cents per word, with no discounts. No classified advertisements accepted for less than 35 cents. Count each initial or number as one word.

Copy for this department must reach us not later than the 15th of each month preceding date of issue. If intended for classified department it should be so stated when advertisement is sent.

As a measure of protection to our readers, we require references of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisements of used beekeeping equipment or of bees on combs must be accompanied by a guarantee that the material is free from disease or be accompanied either by a certificate of inspection from an authorized inspector or agreement made to furnish such certificate at the time of sale.

BEES AND QUEENS

REA'S ITALIAN QUEENS—Selected for quality. Only choice queens sold. Untested, $1.25; tested, $2.00. One breeder in two-frame nucleus to insure safety, $10.00. Queen-rearing instructions free.
George H. Rea, Reynoldsville, Pa.

60 CENTS EACH—Good untested queens, any number. Pure three-banded bees that get the honey.
D. W. Howell, Shellman, Ga.

GOLDEN ITALIAN QUEENS that have the other qualities desired in bees as well as the golden color. Prices: Untested, $1.00; 6, $5.25; 12 to 49, 75c each; 50 or more, 70c each. Health certificate and safe arrival.
Hazel V. Bonkemeyer,
R. 2 Randleman, N. C.

SIMMONS' QUEENS — One, $1.00; six, $5.50; twelve, $10.00. Prices on nuclei reduced. No disease. Queens by return mail.
Fairmount Apiary,
Livingston, N. Y.

PURE ITALIAN QUEENS—The kind that pleases. Prices attractive. Guaranteed satisfaction or money back. Write
Roy Weaver, Navasota, Texas.

GOLDEN ITALIAN QUEENS for balance of season, the big bright, hustling kind (the kind that gets the honey). Satisfied customers everywhere. Untested, 85c each; six, $4.75; twelve, $9.00; 100, $65.00. Tested, $1.50 each. Safe arrival guaranteed. Health certificate furnished.
E. F. Day, Honoraville, Ala.

JULY AND AUGUST is the time to requeen with my famous Italian queens at $1.00; six for $5.00. Twenty years' experience as queen breeder.
J. W. Romberger, 3113 Locust St.,
St. Joseph, Mo.

GOLDEN ITALIAN QUEENS—Untested, $1.00; six, $5.25; twelve or more, 75c each. Select untested, $1.10; six, $6.00; twelve or more, 95c each. State inspected, safe arrival. Money back if not satisfied.
Sam Hinshaw, Randleman, N. C.

QUEENS BY RETURN MAIL—Why take chances on the quality and delivery of your queens? Your next honey crop depends on them. Why not pay a few cents more and be assured of the best quality and prompt delivery? Requeen now and get your hives in condition for winter. Safe arrival and satisfaction guaranteed. Health certificate with each shipment. One untested, 80 cents; twelve for $9.00. Tested, $1.50 each. Write for circular and complete price list. J. M. Cutts & Sons,
Rt. 1, Montgomery, Ala.

LISTEN—To all new customers answering this advertisement I will sell two of our select untested Carolina queens at the price of one. Two for $1.25.
Carolina Bee Co., Graham, N. C.

KANSAS BRIGHT ITALIAN QUEENS—A. M. Hunt's strain; are gentle and hustlers; in Diemer cages. Select untested, $1.00 each; tested, 2.00 each.
C. W. Ward, R. 1, LeRoy, Kans.

ITALIAN QUEENS—Queens, queens. Three-band, $1.00 each; golden, $1.00 each; Albino, $2.00 each. Queens by return mail. Benson Bee Line Co., No. 2, Galena, Ill.

OUT OF FLOOD ZONE—Gaspard high quality golden and three-banded Italian bees and queens. Have several hundred packages for sale for July delivery on comb or combless. Two-pound packages with queen, $3.25 each; each additional pound, $1.00. A special package consisting of two frames of brood, two pounds of bees and a young Italian queen for $5.00. Satisfaction guaranteed; health certificate attached. Address J. L. Gaspard, Hessmer, La.

MACK'S fine, large, robust queens will surprise you at the hordes of big, yellow, ambitious bees they will produce. And honey—well, they are producing maximum crops for others and they will do the same for you. Order a few and bee satisfied. Best we know how to produce, $1.00 each; $10.00 dozen. Guaranteed.
Herman McConnell
(The Bee and Honey Man)
Robinson, Ill.

REQUEEN your colonies of bees with the best young queens you can get. We have some of them. Give us a trial order. Queens 75c each, $9.00 per dozen. One pound of bees with young queen, $2.90; two pounds with young queen, $4.50. All charges paid to your postoffice. Graydon Brothers,
Greenville, Ala., R. 4.

THRIFTY Caucasian tested queen, $2.00; untested, $1.00; Italian, 60c, by return mail. Yard inspected regularly for protection of disease. Peter Schaffhauser,
Havelock, N. C.

FOR SALE—Package bees, with queens or without. Shipped on sugar syrup without comb. No disease. Two-pound package with untested queen, one to ten, $3.50; ten or more, $3.25. State inspection certificate attached. Prompt delivery. Satisfaction guaranteed. Little River Apiaries,
Box 83, Gause, Texas.

RUSCHILL'S Iobred Italian queens produce light colored, three-banded bees that are real honey getters. Untested queens, $1.10 each. Charles L. Ruschill, Colfax, Iowa.

DIEMER'S bright three-banded Italian queens, mailed to you in introducing cages, May and June, $1.25; six, $6.50; twelve, $13.00. After June, $1.00; six, $5.00; twelve, $10.00.
J. F. Diemer, Liberty, Mo.

FINEST ITALIAN QUEENS—$1.00 each.
William R. Stephens, Wingate, Ind.

PURE ITALIAN QUEENS—Untested $1.00; tested, $1.50. Two-pound package, $3.00. Add price of queen wanted. Safe arrival guaranteed after May 10. Write for prices on colonies. Birdie M. Hartle,
924 Pleasant, St., Reynoldsville, Pa.

MISSOURI bred Italian queens. They show results. One, $1.00; six for $5.00.
L. E. Altwein, 1206 N. 13th St.,
St. Joseph, Mo.

QUINN'S QUEENS OF QUALITY—Have no superior. "There's a reason"; are "Mendelian bred." Gray Caucasians, gray Carniolans, Italians and Cyprians. If they are Quinn's they are better. Try them. Untested, $1.50; select untested, $2.00; tested, $2.50; select tested, $3.00 each. Ten per cent off on lots of one dozen.
Charles W. Quinn, La Belle, Fla.

ITALIAN QUEENS—Untested, one to ten, $1.00; ten to twenty-five, 85c. Write for prices on larger quantities and on combless package bees.
Louisiana Southern Bee Farm,
R 2, Baton Rouge, La.

BRIGHT American Beauty Italian bees and queens. After May 10, special two-pound package on frame of emerging brood and honey, queen introduced, $4.25; ten or more, $4.00. Three-pound package same price. Two-pound combless package, with queen, syrup feed, $3.25 each; ten or more, $3.00. Queens, $1.00, $10.00 per dozen. Safe arrival guaranteed. State health certificate.
Tupelo Apiaria, Apalachicola, Fla.
J. L. Morgan, Prop.

PACKAGE bees and queens. Charles Wallace, Box 35, R. 1, Glenn, Cal.

GOLDEN Italian queens that produce golden bees. Very gentle and good honey gatherers. Untested, $1.00; six, $5.40; twelve or more, 80c each. Tested, $1.50. Select tested, $2.50. State inspected. Safe arrival and satisfaction guaranteed. Send for price list. D. T. Gaster,
R. 2, Randleman, N. C.

FOR SALE—Golden Italian queens. One untested queen, $1.00; tested, $2.00 each. Queens ready about May 20. Satisfaction guaranteed.
J. F. Michael, R. 1, Winchester, Ind.

TRY our high class queens and get the honey. We sell only the best selected Italians, guarantee safe arrival and complete satisfaction in every way. Our queens are personally reared and we want you to try them. Prices are $1.00 each; 6 for $5.50; 25 at 80c each, and 50 or more 75c each. Salida Apiaries,
T. L. Nicolayson, Prop.
Salida, Calif.

PETERMAN'S select Italian queens from sunny California: 1, $1.00; 6, $5.50; 12, $10.00; 25, $20.00; 100, $75.00. Safe delivery and entire satisfaction guaranteed.
H. Peterman, Lathrop, Cal.

"SHE-SUITS-ME" QUEENS—Three-banded stock. None better. Untested queens from May 15 to June 15, $2.00; after June 15, $1.50. Introduction guaranteed.
Allen Latham, Norwichtown, Conn.

GOLDEN QUEENS producing yellow to tip. Untested, $1.00 tested, $2.00; young breeders, $10.00. Come ahead with your big orders; my apiary has doubled twice over. Satisfied customers everywhere. Safe arrival guaranteed. Print your address.
H. G. Karns, Victoria, Va.

PACKAGE BEES—Three-band strain only. If you want good, clean bees, prompt service and fair treatment, give me a trial. Shipped on sugar syrup without comb. Two-pound package, three-band strain, with untested queen, $3.50. Ten or more, $3.25. No disease. Health certificate attached. Ten per cent books your order. Satisfaction guaranteed. William Piefer,
Box 83, Gause, Texas.

PLACE your order with us for early queens. Caucasian breeders, daughters of 1926 imported mothers, ready for shipment after April 1. Italians of 14 years' selecting. Caucasian untested, one, $1.50; six, $7.50; twelve, $14.00; one hundred, $100.00. Tested, each, $2.50 after May 15. Italians, one, $1.00; six, $5.50; twelve, $10.00; one hundred, $70.00. Tested, each, $1.50. Pure mating, safe arrival guaranteed in U. S. and Canada. Queens for export carefully packed, safe arrival not guaranteed.
Tillery Bros., Route 6,
Greenville, Ala., U. S. A.

GOLDEN UNTESTED QUEENS—Gentle and good honey gatherers as can be found; $2.00 each. Tested, $4.00 each. Best breeders, $20.00. Over thirty years a Golden Italian breeder.
J. B. Brockwell, Barnetts, Va.

HIGHEST grade Italian queens—Tested, $1.50; untested, 75 cents. Package bees, one pound, $1.50; two pounds, $2.50; three pounds, $3.25. Have had no disease. State inspection certificate with each shipment. Safe delivery guaranteed.
T. L. Davis, Buffalo, Leon Co., Texas.

EARLY package bees and highest grade Italian queens. Our only business is Bees and Queens. We do not produce honey, deal in supplies or sell off a few old bees in the spring as a side line. Our colonies are worked exclusively for the production of young, vigorous, healthy worker bees for packages. Colonies are drawn on about every two weeks from March 20 to June 20. Two- and three-pound packages. Fifty pounds or more $1.00 per pound. Select three-band Italian queens $1.00 each. Ten per cent deposit will book order and reserve shipping date. Large orders booked in advance will receive special prices. We guarantee both safe arrival and satisfaction.
J. E. Wing, Cottonwood, Calif.
Most Northern Breeder in California.

GOLDEN THREE-BANDED and Carniolan queens. Tested, $1.00; untested, 75c each. Bees in 1-pound package, $1.50; 2 pounds, $2.50; 3 pounds, $3.25. Safe delivery guaranteed. C. B. Bankston,
Box 65, Buffalo, Leon Co., Texas.

LEATHER COLORED ITALIAN QUEENS—$2.00; after June 1, $1.00. Tested, $2.00.
A. W. Yates,
15 Chapman St., Hartford, Conn.

WANTED—Orders for May delivery, Italian bees and queens. Quality of queens and full weight of bees absolutely guaranteed. I can fill packages and have bees under way in from twelve to twenty-four hours after receipt of order. Price of two-pound packages with queen, $3.50; three-pound packages, $4.65. Young queens just commenced laying, guaranteed equal to the best, $1.00 each. O. P. Hendrix, West Point, Miss.

FOR SALE

FOR SALE—At a sacrifice, bee hive factory. We will sell our entire plant or any part of the machinery or stock. Reason for selling, we wish to give our entire time to our bees. If interested, write at once to Box 4, care American Bee Journal.

ON account of death of my husband, am selling fifteen stands of pure Italian bees at a sacrifice, going, $5.00 to $7.00 each.
Mrs. W. G. Nunn,
R. 4, Arlington, Texas.

FOR SALE—100 standard ten-frame extracting supers with drawn combs; one eight-frame power extractor, 75 wood and wire queen excluders. Furnish certificate of inspection. Chester E. Keister,
Orangeville, Ill.

FOR SALE—Root-Cowan extractor, baskets 12x16 inches, Lewis 100-gallon tank, capping melter, honey warmer or liquefier, push cart, platform scales, kerosene stove, eight dozen quart jars, ten cases five-gallon cans. This equipment has been used solely at my apiary, in which there has been no foulbrood. Mississippi floodwaters and disability on my part is the cause for selling. Write for particulars.
L. C. Worth, Lilbourn, Mo.

FOR SALE—75 colonies of Italian bees in ten-frame and thirteen-frame, with excluder for each colony and five spare hives. Plenty of shallow supers and combs for them. Small extractor, two honey tanks and uncapping knives. All brood combs metal spaced and built from full sheets foundation. No brood disease in this section. Offered at very low price on account of bad health of owner, who will sell farm also, with livestock and tools. Good package bee location near Demopolis, Ala.
J. A. Dennis,
McDowell, Sumter County, Ala.

FOR SALE—One-frame observation hive; one eight-frame observation hive with comb honey super; 75 Alexander feeders for eight or ten hives, complete. All at half catalog price. Good articles.
George Seastream, Moorhead, Minn.

FOR SALE—Forty cases empty honey cans in good condition. Two cans to case, boxed, 45c per case. Will not divide.
J. K. Wolosevich,
2516 Archer Ave., Chicago, Ill.

NEW ten-frame bee supplies at bargain prices. Herbert Keitzer,
Vernon Center, Minn.

FOX AND FUR FARMING—The fastest growing and the most profitable industry in the world. Our monthly publication, seven years old, prints all the news. Sample copy 25c. Subscription $2.00 per year in United States, $2.25 in Canada.
American Fox and Fur Farmer,
St. Peter, Minn.

FOR SALE—We are constantly accumulating bee supplies, slightly shopworn, odd sized, surpluses, etc., which we desire to dispose of and on which we can quote you bargain prices. Write for complete list of our bargain material. We can save you money on items you may desire from it.
Dadant & Sons, Hamilton, Illinois.

WILL SELL 75 or more ten-frame hives (Italian bees) at $8.00 per hive. Inquire at Dittrich & Kurdy's, St. Bonifacius, Minn.

A QUANTITY of supers for 10-frame hives, with section holders, fences, wedges and springs. Painted. Like new. $1.50 each. Discount for ten or more.
Merton Church, Highland Park, Ill.

HONEY AND BEESWAX

FOR SALE—Fine quality of light amber honey.
Lewis Klaty, Carsonville, Mich.

NEW white orange blossom honey in 60-lb. tins, 12c per pound.
Leutzinger & Lane,
76 Clay St., San Francisco, Cal.

BUCKWHEAT HONEY FOR SALE—New 60-lb. cans, at 7c; 5-lb. pails, 80c, postpaid. Edward Hogan, 179 Gibson St.,
Canandaigua, N. Y.

Classified Ads Pull

"Possibly you recall the little ad I put in your March issue, of two honey extractors for sale. I took those over at a forced sale (having no knowledge of bees).

Supposed I would have to list them at least three or four times, BUT I DID NOT HAVE ENOUGH EXTRACTORS FOR ONE ADV. Think I could have sold at least a dozen.

I shipped one to Painted Post, N. Y., and one to Ozan, Ark.

I felt it my duty to compliment you on the success of your advertising."

C. A. Dye, Belle Valley, Ohio.

If you have anything to sell or trade use our classified columns

EXTRACTED TUPELO—The greatest of all honeys; never granulates, mild, deliciously flavored. Sample 20c of barrel to car lots. Parcel post package delivered, half gallon, $1.85; one gallon, $3.55.
M. L. Nisbet & Bro., Bainbridge, Ga.

"STURDEVANT'S NEBRASKA CLOVER HONEY" — White, extracted, sixties. Rochester, N. Y., Boston, Mass., Home Apiaries. Bids solicited.
J. H. Sturdevant, St. Paul, Neb.

FANCY white tupelo extracted and bulk comb, packed in five-pound tin.
J. L. Morgan, Tupelo Apiaries,
Apalachicola, Fla.

FOR SALE—Large stock first-class white clover, basswood, sweet clover, light amber and buckwheat extracted honey. Producers who need more, dealers and solicitors should write us about their wants.
A. I. Root Company,
224 W. Huron St., Chicago, Ill.

BUCKWHEAT extracted honey for sale, 60-lb. cans, at 7c.
Edward Hogan, 179 Gibson, St.,
Canandaigua, N. Y.

FOR SALE—Fine clover honey in new 60's. Free of disease. Twelve dollars per case.
Newman I. Lyle, Sheldon, Iowa.

FOR SALE—White sweet clover extracted honey and fancy white comb in shallow frames. Quality goods that will please your trade. Write for prices.
The Colorado Honey Producers' Ass'n,
Denver, Colo.

FOR SALE—Best clover extracted honey in new sixties. Say how much you can use and let us quote you our price.
E. D. Townsend & Sons, Northstar, Mich.

HONEY FOR SALE—Any kind, any quantity. The John G. Paton Co.,
217 Broadway, New York.

FOR SALE—Northern white extracted and comb honey. M. W. Cousineau,
Moorhead, Minn.

FOR SALE—Ohio white clover honey $12.00 per case; in ten-case lots, $10.80 per case; twelve 5-lb. pails, $8.00; chunk honey, two 5-lb. pails $10.00. Sample 15c.
F. W. Summerfield, Waterville, Ohio.

FOR SALE—White extracted honey in five-pound pails. Twelve pails, $9.60; fifty, $37.50; one hundred, $70.00, f. o. b. Jenison. Also northern bred Italian queens.
Jay Cowing, Jenison, Mich.

SHALLOW frame white comb honey and white extracted honey.
The Colorado Honey Prod. Ass'n,
Denver, Colo.

FOR SALE—Choice clover extracted honey packed in new 60-pound cans and cases.
J. D. Beals, Dwight, N. Dak.

HONEY WANTED—Several thousand cases white clover comb honey, size 4¼x4¼x1⅞. Must be white and strictly graded, fancy and No. 1. No other grade wanted; also extracted. Send sample, give quantity and price wanted. We pay cash.
A. L. Haenseroth,
4161 Lincoln Ave., Chicago, Ill.

"BEEWARE" and Dadant's Wired Foundation for the Northwest. Catalog prices. F. O. B. Fromberg, Montana. Beeswax wanted. Write for prices.
B. F. Smith, Jr., Fromberg, Mont.

FOR SALE—Our own crop amber fall honey in barrels and cans. State quantity wanted and we will quote prices. Samples on request.
Dadant & Sons, Hamilton, Ill.

HONEY FOR SALE—In 60-lb. tins. White clover at 12c lb.; white sage at 12c lb.; white orange at 13c lb.; extra L. A. sage at 11c lb. Hoffman & Hauck, Inc.,
Ozone Park, New York.

SUPPLIES

ROBINSON'S comb foundation will please the bees, and the price will please the beekeeper. Wax worked at lowest rates.
E. S. Robinson, Mayville, N. Y.

FOR SALE—Forty new 60-pound two-can honey cases, 80 cents each; also other beeware at special bargain prices.
J. H. Haughey, Berrien Springs, Mich.

ROOT BEE SUPPLIES—Used 60-lb. cans, good as new, in clean wood cases, partition, two cans to case, 50c.
A. V. Small, Augusta, Kans.

FOR SALE—Second-hand five-gallon cans. Only good cans offered. Two cans each case. Per ten cases, 50 cents each; per twenty-five cases, 45 cents each.
A. I. Root Co.,
230 W. Huron St., Chicago, Ill.

"SEE my advertisement of bargains in bee supplies, in May and June issues. Price reduced to $20.00, or will trade for reversible or non-reversible extractor with 12-inch pockets."
O. S. Ward, Obion, Tenn.

BEST QUALITY bee supplies, attractive prices, prompt shipment. Illustrated catalog on request. We buy beeswax at all times and remit promptly.
The Colorado Honey Producers' Ass'n,
Denver, Colo.

SMALL STEAM BOILER for sale, like new, $30.00. Wesley Schaal, Gillett, Wis.

FOR SALE—Good second-hand 60-lb cans, two cans to a case, boxed. We have large stocks of these on hand. Please write for prices if interested. We are offering only good cans and good cases.
C. H. W. Weber & Co., Cincinnati, O.

MISCELLANEOUS

WILL EXCHANGE packages bees or queens for standard breed of chickens, ducks and geese. Tupelo Apiaries,
Apalachicola, Fla.

DIEMER QUEEN CAGE—A novelty in queen introduction. Indorsed by hundreds of beekeepers in U. S. and Canada. Directions with each shipment. Price 15 cents; eight, $1.00. Patented and manufactured by
J. F. Diemer, Liberty, Mo.

LABELS, PRINTING, ENGRAVING—Finest work, lowest prices. Catalog free. Write Traders Printing Co., Springfield, Mo.

WESTERN HONEY BEE, 2823 E. 4th St., Los Angeles, Calif., published by Western beekeepers, where commercial honey production is farther advanced than in any other section of the world. $1.00 per year. Send for sample copy.

MAKE queen introduction sure. One Safin cage by mail, 25c; 5 for $1.00.
Allen Latham, Norwichtown, Conn.

HAVE YOU any Bee Journals or bee books published previous to 1900 you wish to dispose of? If so send us a list.
American Bee Journal, Hamilton, Ill.

THE DADANT SYSTEM IN ITALIAN—The "Dadant System of Beekeeping" is now published in Italian, "Il Systema d'Apicoltura Dadant." Send orders to the American Bee Journal. Price $1.00.

GLEANINGS IN BEE CULTURE, published at Medina, Ohio, is the most carefully edited bee journal in the world. Its editor-in-chief is George S. Demuth. Its field editor is E. R. Root. Ask for sample copy.

WANTED

WANTED—Shipments of old comb and cappings for rendering. We pay the highest cash and trade prices, charging but 5c a pound for wax rendering.
Fred W. Muth Co.,
204 Walnut St., Cincinnati, Ohio.

Combless Package Bees and Foulbrood

By W. H. Lewis

THE statement by the editor and Mr. Burleson, in the March Bee Journal, that "there is not much danger of American foulbrood being carried in combless packages," will, I fear, be taken by careless or easy shippers to mean that disease cannot be transmitted in packages.

The claim that bees consume the infected honey during the time of confinement in the cage was made many years ago, at the first of the package business, and has remained to the present time, but we, at the receivers' end, know positively that it is not true.

That not many cases of infection, in packages, are reported is probably true, but is undoubtedly the result of clean apiaries and close inspection, for many packages from many different shippers come to British Columbia, and but two shippers (and most of it from one) have been charged with sending infected packages.

I have in the past ten years imported, sold and put in many hundred packages for myself and others; have had infected packages, and believe that every package taken from an infected colony will surely carry the disease, and have advised purchasers to put them on foundation, if possible, as the chance of infection is then pretty surely eliminated. The loss of time in drawing out foundation is hardly noticeable.

This is written to warn shippers against sending out packages where there is a chance of prior infection. The law of British Columbia prohibited importation of bees on combs long before package bees were thought of, and will never be modified. Bees in combless packages are admitted, but if packages with disease are not kept to the minimum, in my opinion they will also be prohibited.

To Editor Dadant, congratulations for your good health at your last birthday. I am also getting along (78) and was a subscriber to the American Bee Journal nearly forty years ago, in the time of Thomas Newman.

British Columbia.

Advertising Food Products

Advertising, properly used, is a tremendous force, but since so many different lines of advertising have appeared the competition is so intense that it is becoming increasingly difficult to attract public attention. With a hundred things clamoring for notice on every hand, the product that is not advertised gets scant attention.

Perhaps one trouble with honey is that folks don't think about it. The pages of magazines of national circulation carry advertising for butter, oleomargarine, raisins, oranges, milk and many other food products. The latest announcement is to the effect that the apple growers will raise a fund of four million dollars to carry on a four-year campaign of advertising "Apples for Health."

Just now an industry of minor importance like honey production, with its members scattered over such immense areas and with a product which varies in quality with the soil and flora of each neighborhood, offers a problem not easy to solve. Certainly, if beekeepers are to prosper, honey must be kept before the public. The limitations of the human appetite are such that when one food is eaten another must be displaced. We must find a way to make folks want honey and then make sure that it is within their reach. A carload of honey in a Wyoming apiary is of no use to the Baltimore housewife whose grocer has no honey on his shelves.

Spray Kills Bees

Perhaps you would like to know how those bees poisoned by spray are doing. A few of the colonies are dead, a few more abandoned their hives, while others have not more than a handful of bees. Some of these were so strong in bees that they covered all combs in two-story hives. About eighty colonies have not more than from three-fourths of a frame to three Langstroth frames of brood and bees, at this date, about 10 per cent of the colonies are about half colonies, while only six colonies in the home yard are medium in strength. You see there will be no honey in this yard. Our prospects for fall flow are anything but good, as the rivers are still very high and water is over nearly all the lowlands.

F. X. Arnold,
Deer Plain, Ill.

60c each

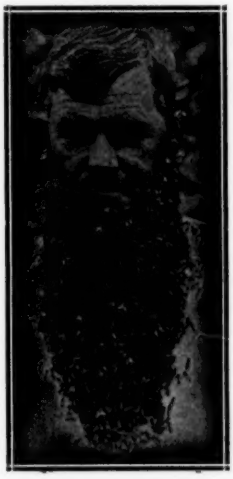
Good untested queens, any number. Pure three-band bees that get the honey.

D. W. HOWELL, Shellman, Ga.

QUEENS 50c EACH

Any number. By return mail or to suit your convenience in introduction. Every queen must be O. K. or she doesn't go. Nothing cheap but the price. "We strive to please with better bees." Constantly looking to improvement. Twelve years' experience in queen-rearing on large scale, with every facility provided, enables us to put out queens of highest quality; large, vigorous, prolific, and beautiful in color, throwing bees of uniform yellow color true to strain, gentle and great hustlers. Pure three-banded Italians only. Pure mating and safe arrival guaranteed. Never had any disease here.

JENSEN'S APIARIES **Crawford, Miss.**



JAY SMITH'S
QUEENS

are better than ever this year. With many qualities similar to our Queen Alice, that lived eight years and two months, this year our queens are far more beautiful, and their worker bees are handsome, vigorous and extremely gentle. You are sure to be pleased. We have a number of splendid breeders, which we send in our new two-pound cage. All queens can be sent promptly. Write for our free book "About Bees," for further particulars and complete price list.

Prices—One to four, inclusive, $1.50 each; five to nine, inclusive, $1.45 each; ten to twenty-four, $1.40 each. Breeding queens, service for the entire season guaranteed, $10 each.

JAY SMITH ROUTE 3 **VINCENNES, IND.**

CANADIAN BEEKEEPERS
"Chrysler's Process Foundation"

Government tests prove to be the "Best by Test Kind." Made of pure Beeswax. Perfect refining and milling. Thirty-five years' experience. Satisfaction guaranteed.

Other supplies manufactured. Best goods at lowest prices
Send for Catalogue

W. A. CHRYSLER & SON, Chatham, Ont.

High Grade Italians

1 for $1.00

Three Banded, Purely Mated Health Certified

Carefully Selected

12 for $10.00

Safe Arrival and Satisfaction Guaranteed

URIAH APIARIES **URIAH, ALABAMA**

Hi-Grade Three Banded Italian Queens

From Alabama's Finest Honey Producing Strain

60c each

TEN OR MORE 50c EACH

Safe Arrival and Satisfaction Guaranteed

JNO. C. HOGG Ramer, Alabama

QUEENS—GOLDEN QUEENS

I am offering queens that are raised with greatest care and according to best methods known. Not one complaint from my many customers living in 33 states. They should please you.

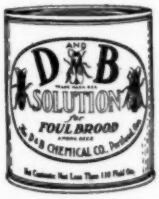
Single queens, $1.00; 10, $9.00; 25, $20.00
Larger lots, 75c each

M. STEVENSON. Westwego, La.

MOTT'S NORTHERN BRED ITALIAN QUEENS

All select queens. No disease. Replace free all mismated queens. Safe arrival insured. Satisfied customers now 22 years. List free. Select untested, $1.25 till June 1; $1.00 thereafter. Select tested, $2.00. Virgins 50c. Michigan bounded on the north and east by Ontario, Canada.

E. E. MOTT & SON, Glenwood, Mich.



Every ounce of this re-processed Water

FORMALIN SOLUTION

measures up to a given standard of strength and purity

For sterilizing combs infected with **AMERICAN FOULBROOD** ***it is the Cheapest Dependable Disinfectant.***

THE DIAMOND MATCH CO.,
Pierce Bldg., St. Louis Mo., **Agents**

THE D. & B. CHEMICAL CO.
800 E. 37th St. Portland, Oregon

QUEENS

GET RUNNING'S QUEENS
AND GET
HONEY

Prices for May delivery as follows:

1 Choice Untested Italian Queen	$1.00
6 Choice Untested Italian Queens	5.40
12 Choice Untested Italian Queens	10.20
1 Choice Tested Italian Queen	1.75

After June 1, Choice Untested Italian Queens 75c each

Write for large lot prices, stating how many you can use.

All queens shipped from Sumterville, Alabama. Address

DAVID RUNNING

Filion, Mich., or Sumterville, Ala.